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## WORLD EPIDEMIOLOGY REVIEW

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This serial publication, based on worldwide press and radio reports, contains information on the epidemiology of human, animal, and plant diseases. Disease incidence, reported outbreaks, and various related epidemiological factors are included. Items are presented by country of occurrence rather than by country of original press report.

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## I. HUMAN DISEASES

### ANGOLA

#### DISEASE IDENTIFIED AS TYPHOID FEVER

Paris AFP in English 1545 GMT 17 Dec 76 PA

[Text] Luanda, Dec 17 (AFP)--An epidemic in Angola's (?north-east) Uige Province is almost certainly typhoid fever and not, as was feared, green monkey fever, [words indistinct] reported here today.

A communique issued by Angola's Health Ministry said overseas laboratory tests had ruled out yellow fever and other similar fevers which caused hemorrhaging.

Reports here said the epidemic was confined to the Uige Province and numerous medical teams had been rushed to the area. Angola's Uige Province borders on Zaire where an outbreak of the deadly green monkey fever was confirmed last month. The virus has killed more than 300 people this year in Zaire and Sudan.

### BRAZIL

#### INCIDENCE OF CHAGAS' DISEASE RISING IN MINAS GERAIS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 6 Nov 76 p 13

[Text] Belo Horizonte--The incidence of Chagas' disease is increasing in the north of Minas, according to statistics submitted to the Superintendency for Development of the Northeast (SUDENE) yesterday by Joao Luiz Silva, director of the Superintendency for Development of Northern Minas (SUDENOR). He explained that 30 percent of the patients treated by the National Social Security Institute (INPS) in the area are carriers of the disease at this time.

That information confirms the hypothesis advanced some time ago by several researchers to the effect that indiscriminate deforestation and the persistence of poor housing conditions would inevitably produce an increase in the incidence of Chagas' disease.

According to Dr Francisco de Assis Machado, director of the Regional Health Center of Montes Claros, some municipalities of northern Minas show indices of up to 40 percent contamination of dwellings. In the city of Montes Claros itself, one of the most populous and most important of the state, "the index ought not be less than 10 percent," according to him.

#### INCIDENCE OF TUBERCULOSIS

Rio de Janeiro O GLOBO in Portuguese 10 Nov 76 p 9

[Text] Recife--To emphasize the seriousness of the problem of the disease in Pernambuco, Rogerio Machado, coordinator of the Tuberculosis Section of the State Health Secretariat, said yesterday that 40 percent of its population--2.4 million of the 6 million inhabitants--are infected with Koch's bacillus.

On the basis of studies, he stressed that probably 10,000 of those infected persons will become sick each year because the majority of them live in places where living conditions are precarious, and there is a lack of basic sanitation and a great degree of undernourishment.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 19 Nov 76 p 21

[Text] At least 2.4 million persons, who represent 40 percent of the population of Pernambuco, are infected by the tubercle bacillus, an index which epidemiologic studies established as common in almost all underdeveloped countries where living conditions are precarious. This information was disclosed in Recife by Rogerio Machado, coordinator of the tuberculosis section of the State Health Secretariat. And the data of the Special Public Health Service (SESP) Foundation of the Ministry of Health indicate that of the total 32,686 cases of the disease registered in the country last year, 13,626 were reported in the northeast.

Epidemiologist Rogerio Machado points out that "when referring to people infected by the tubercle bacillus, the allusion is to persons who still are not ill, but who have the germ in their system and could contract the illness if faced with precarious living conditions, which favor the spread of the focuses of infection."

According to Rogerio Machado, the infected persons cannot be subjected to preventive treatment. It is only possible to provide them with better living conditions to prevent the spread of the bacillus, and to vaccinate

the persons who are not infected to prevent them from getting the micro-organism of the disease.

### Serious Situation

Specialists of the SESP Foundation remark that the prevalence of infection by tubercle bacillus in Brazil indicates that the disease continues to be one of the most serious public health problems of the country. Despite the inadequacy of the statistics, which are incomplete and conflicting, it is possible to establish that the northeast constitutes the most serious problem. It is estimated that of the total number of known patients throughout the country, more than 40 percent are located in that area. According to tuberculosis expert Jose Silveira of Bahia, 30 percent of Brazilians up to 14 years of age are infected with the bacillus of the disease, and that index reaches 50 percent among adults.

The latest data of the SESP Foundation show that 2,855 cases were registered in the northeast in the first quarter of 1976, with the greatest incidence occurring in Bahia, Ceara and Pernambuco, where 648, 552 and 532 patients turned up, respectively. According to data furnished by the National Tuberculosis Division, the 48 dispensaries located in the northeast registered 24,515 patients in 1975.

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 25 Nov 76 p 36

[Text] The National Social Security Institute (INPS) cannot control tuberculosis in Parana and cannot even manage to reduce the number of persons who become incapacitated as a result of that disease. The disclosure was made yesterday by Dr Joao Zeni Junior, regional coordinator of social security medical skills, in the course of the 7th Meeting of Top Level Medical Officials of the INPS, which will come to a close tomorrow in Curitiba.

During the past 5 years, tuberculosis has remained in second place among the causes of work disability in Parana, surpassed only by alcoholism. According to Zeni Junior, "the disease goes hand in hand with the impoverishment of the population." An average of 36 persons a month have been incapacitated in Parana as a result of tuberculosis this year.

Of the 2,000 beds available to the INPS for the treatment of the disease in the state, 900 are concentrated in the metropolitan area of Curitiba. But the demand is within limits, in the opinion of the doctor, because "not all tuberculosis patients need to be confined." He considers that the control of the sources of the disease is important. "No one from social security goes to the place of work of a patient, nor visits the home of a patient to find out how many are being infected, or where the patient contracted the disease."



For that reason, Zeni Junior suggests that public health take care of the patient as well as of the prophylaxis, because that sector "has the necessary infrastructure which the INPS lacks."

#### HEALTH MINISTER CITES DATA ON SCHISTOSOMIASIS INCIDENCE

Sao Paulo FOLHA DE SAO PAULO in Portuguese 12 Nov 76 p 16

[Text] About 18 million persons in Brazil are carriers of schistosomiasis. However, because there are no recent statistical data, that figure could be much higher, particularly in the northeast. The statement was made by Health Minister Paulo de Almeida Machado, who yesterday signed an agreement with the government of Sao Paulo to conduct studies, and combat and eradicate that disease in Brazil.

According to Almeida Machado, the tasks are intended to produce a long-term evaluation model of the special program to combat schistosomiasis on a national level by the State Analyses and Statistical Data System.

Walter Leser, the state health secretary, asserted that the problem is minimal in Sao Paulo in comparison with the northeast of the country. There were, however, some sources of the disease detected in the area of Paraiba Valley, Ourinhos and, more recently, Cubatao, mainly because of a lack of an infrastructure in the field of basic sanitation.

#### MINAS GERAIS STEPS UP EFFORTS TO CONTROL COMMUNICABLE DISEASES

Rio de Janeiro O GLOBO in Portuguese 15 Nov 76 p 11

[Text] Belo Horizonte--In comparison with last year, the state program for control of communicable disease will be increased by 40 percent until year end, according to information furnished by Dr Jose Maria Borges, the program coordinator from the Health Secretariat of Minas Gerais.

The coordinator also said that, in general, the current stocks of vaccines against whooping cough, tetanus, croup, infantile paralysis and tuberculosis are reasonably sufficient to keep up with the program, which should come to a close on 31 December.

Starting in 1977, a new increase in the area of immunization should go into effect throughout the state. Arrangements intended to increase the shipment of those vaccines to Minas are being kept up with the Ministry of Health.

The only vaccine that is relatively scarce--and this also applies to other parts of the country--is the one against measles, because it is an imported product. The 130,000 doses of antimeasles vaccine that the Health

Secretariat recently received from the Ministry of Health are practically exhausted. The coordinator explained that they were used in areas where the incidence of the disease is greatest, and that the current trend is toward a decrease in cases of measles.

#### Meningitis

Concerning meningitis, Jose Maria Borges disclosed that there had been an increase of 2 percent in the number of recorded cases. For that reason, a special activity is being carried out in areas where the incidence of the disease is most significant. About 300,000 doses of vaccine that the Health Secretariat recently received from the Ministry of Health are being used.

#### Gastroenteritis

"Whenever the temperature rises, cases of dehydration increase and the threat of gastroenteritis grows. In terms of public health, the matter will be controversial for a long time, because it is only through a correction of the infrastructural factors that it will be possible to modify that aspect," said Jose Maria Borges, who considers that personal and collective hygiene are essential for the prevention of the disease.

The doctor said that in addition to the Salvio Nunes Hospital, which specializes in children's diseases, the Health Secretariat of the capital has more than 20 units to assist and guide the population.

#### STATISTICS ON INFECTIOUS DISEASES REPORTED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 20 Nov 76 p 25

[Text] Brasilia--In the first 8 months of this year, almost 50,000 persons, mainly children under 5 years of age, fell victim to diseases easily prevented by vaccination (poliomyelitis, measles, whooping cough, diphtheria, tetanus and typhoid fever), according to the epidemiologic bulletins of the WHO and the Special Public Health Service (SESP) foundation of the Ministry of Health.

According to statistics, the southeastern section of the country was the most affected by infectious-contagious afflictions. And the greatest number of patients which resulted from the lack of immunizators, the deficient structure of the health secretariats, and the ignorance of the families in rural areas were recorded in the states of Sao Paulo, Bahia and Pernambuco. According to the WHO, measles produced 3,091 victims in Brazil in the month of June alone, while the Ministry of Health registered 4,162 cases in the first half of the month of August. The WHO recorded 16,473 cases of measles in 6 months of 1975.

## Growth

Last year, Hansen's disease, malaria and tuberculosis produced 130,224 new patients; this year, they have already affected 35,565 persons, of whom 26,280 were by malaria. Of the 50,000 new patients this year, 14,329 were caused by whooping cough, 3,041 by diphtheria, 2,140 by typhoid fever, 1,759 by poliomyelitis, 1,592 by tetanus, and 23,428 by measles, in addition to 45 cases of human rabies.

The Ministry of Health advises, however, that the data are not complete because many states do not furnish regular and accurate information regarding diseases. This will become obligatory this year when the Compulsory Notification Law, which covers all those ailments, goes into effect nationwide. Cases of measles, or of other diseases, were not reported in the Territory of Noronha, for example, and the same applied to the state of Acre.

According to this year's epidemiologic bulletins, the midwestern region contains the lowest number of patients, and the highest index corresponds to measles with 1,248 cases. The states of the northeastern and southeastern regions have the greatest incidence of all infectious-contagious diseases. There were 1,227 cases of whooping cough, 135 of diphtheria, 50 of typhoid, 198 of poliomyelitis, 91 of tetanus and 368 of measles registered in Sao Paulo, while there were 807 cases of whooping cough, 592 of diphtheria, 721 of typhoid, 362 of poliomyelitis, 223 of tetanus and 21,969 of measles in Pernambuco.

Although it is the Ministry of Health itself that furnished the data on Brazil to the WHO, the figures appearing in the WHO bulletin are not always identical to the ministry's. Some of the data were not even included in one of the bulletins.

## Campaign

Next Wednesday, vaccination centers against infantile paralysis will be installed in two stations of the Sao Paulo subway: Ana Rosa, on Vergueiro St, and Luz, on Brigadeiro Tobias St. This is the first time that the subway is included in the campaign that is being conducted by the Health Secretariat.

The centers will operate from 0800 to 1700 hours, and the vaccine will be administered to children between 2 months and 3 years of age. At that age, they must receive three doses spaced 2 months apart, as well as a booster dose 1 year after receiving the third dose.

## IMMUNIZATION CAMPAIGN UNABLE TO ERADICATE POLIOMYELITIS IN SAO PAULO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 25 Nov 76 p 36

[Text] Although managing to reduce the incidence of poliomyelitis in Sao Paulo by about 75 percent, the Sabin booster vaccine campaign of this year, which the Health Secretariat brought to a close yesterday, will not be sufficient to eradicate the disease completely. After administering approximately 4.8 million doses, the Health Secretariat managed to reduce the number of cases of infantile paralysis registered in Sao Paulo in the first 10 months of the year from 317 in 1975 to only 83 in 1976.

That index, considered excellent by the technicians of the Health Secretariat, does not imply, however, that infantile paralysis could be completely eradicated in the area of Greater Sao Paulo starting next year. Vitorio Barbosa asserts that this is the principal objective of the campaign, although he does not dare make predictions. In his opinion, all the efforts of the Health Secretariat to have the children of Greater Sao Paulo receive at least five doses of the vaccine are not sufficient to overcome the socioeconomic conditions of the city's environs, which are highly favorable to the growth of the disease.

"In addition to that," asserts the doctor, "studies recently conducted in Uganda proved that immunization in tropical countries becomes effective only with the administration of six doses." This year, the Health Secretariat carried out five stages of booster vaccination, at which times medical units deployed to 490 sites throughout the capital, reaching sections that are not normally serviced by vaccination centers.

Yesterday--the final stage of vaccination--the secretariat estimates that it distributed close to 300,000 new doses. The personnel working at the centers of Vila Mariana, Luz and Indianopolis estimate, however, that the activity was almost 50 percent less than in previous stages. At the Vila Mariana center, for example, only 384 children were vaccinated, while that number reached 1,350 in the preceding stage.

## AUTHORITIES TO INVESTIGATE REPORT OF MEASLES IN CAMPOS

Rio de Janeiro O GLOBO in Portuguese 2 Dec 76 p 14

[Text] The General Epidemiology Department of the State Health Secretariat announced yesterday that it is going to investigate a report of Dr Jose dos Santos Filho, of the National Social Security Institute (INPS) Assistance Center in Campos, to the effect that six children are afflicted with measles in that area every day.

Even if those figures are confirmed, the department reported that it will have to conduct an investigation of the cases of measles that have occurred

of late in order to determine if the disease remains at an endemic level or has attained the proportions of an outbreak.

Yesterday, according to Dr Jose dos Santos Filho, three children were confined in the INPS center of Guarus suffering from measles. He disclosed that the Medical Center of Campos has vaccines, but that they are not in much demand by the people, "who still have not been alerted against the epidemic."

#### MACHADO DISAPPROVES VACCINES AGAINST GERMAN MEASLES, MUMPS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 3 Dec 76 p 22

[Text] Brasilia--Yesterday, Health Minister Almeida Machado asserted that the National Immunization Program for 1977 is going to classify the vaccines against rubella and mumps as "inadvisable," because they allow the transmission of the diseases by the immunized persons. The minister made that statement at a meeting of state health secretaries, and Jair Soares, the secretary of Rio Grande do Sul, announced in spite of it that he is going to vaccinate all the children of his state against mumps.

Almeida Machado said that the National Immunization Program for next year will be comprehensive and will make up for the delay of the past 2 years, alerting in addition the state secretaries against the persistence of unscrupulous manufacturers who seek to introduce into the country vaccines made with live viruses, such as the ones against rubella and mumps.

The lack of adequate vaccination criteria on the part of some secretaries was criticized by the minister, who once more alerted the secretaries attending the meeting against certain types of antigens which are not recommendable for mass use, although the manufacturer often tries to force their purchase by the state organizations.

Almeida Machado assured the secretaries that there will not be a lack of vaccines next year and that, pursuant to the National Immunization Program, children under 5 years of age should receive five vaccines: triple (diphtheria, tetanus and whooping cough), measles, intradermal BCG, poliomyelitis and smallpox.

Despite the recommendations of the minister, however, the health secretary of Rio Grande do Sul, Jair Soares, announced his intention to vaccinate all the children of the state against mumps. According to him, the vaccination against rubella of all girls between the ages of 7 and 14 years is also very important, so that they do not contract the disease in the first few months of pregnancy and are forced to abort or to bear defective children. The secretary said that he had ordered all the female population of that age group vaccinated against rubella this year.

## INCIDENCE OF MENINGITIS AND MALARIA IN MATO GROSSO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 4 Dec 76 p 21

[Text] The considerable increase in cases of meningococcic meningitis in Campo Grande from October to November could make necessary a new vaccination campaign in the city, according to municipal Health Secretary Fernando Higa. In Roraima, technicians of the Superintendency of Public Health Campaigns (SUCAM) accuse Radio Voice of America of being the cause of an increase in the incidence of malaria in the territory as a result of its systematic campaign against DDT.

Although it has not released any figures about the increase of cases of meningitis in the city, the Health Secretariat of Campo Grande decided to consult with state and federal authorities about the possibility of a new mass vaccination campaign, similar to what was done in Sao Paulo and in Rio de Janeiro.

The systematic campaign that Voice of America has been conducting against DDT for 5 years is to blame, according to technicians of the SUCAM, for the high incidence of malaria in the Territory of Roraima, where 24 percent of the population has already had some problem with the disease this year.

DDT is the principal immunizing agent used by the SUCAM to combat the anopheles (the mosquito that transmits malaria). The walls of all houses must be sprayed with the product every 6 months because, according to epidemiologist Durval Ferreira, "after biting a person, the mosquito tends to carry out the digestion of the blood on a wall." However, he explains, every backwoodsman today has his small battery-operated radio and, influenced by the Voice of America campaign, refuses to have his house immunized.

## CAUSES OF INCREASED MALARIA IN RORAIMA DISCUSSED

Rio de Janeiro JORNAL DO BRASIL in Portuguese 5 Dec 76 p 47

[Text] Boa Vista--Malaria affected 12,000 persons in Roraima this year: 24 percent of the population of the territory. Dr Durval Ferreira, chief of epidemiology of the Superintendency of Public Health Campaigns (SUCAM) center, lists the causes: the battery-operated radio to which the backwoodsmen pay much attention, the lack of walls in shacks and the migrants.

At first sight, the causes seem unusual. But he is dealing with trifles--one of the main causes of the high incidence of the disease is the systematic campaign that the U.S. Radio Voice of America has conducted against DDT for 5 years. The radio station daily asserts that DDT is a cancer-producing agent.

## Walls

DDT is the principal immunizing agent used by the SUCAM in the fight against malaria. All houses have their walls sprayed with DDT every 6 months because the anopheles (the malaria-transmitting mosquito) tends to carry out the digestion of the blood on a wall after biting a person.

"It happens," says the doctor, "that today any cowboy or backwoodsman has his small battery-operated radio and, influenced by the Voice of America campaign, refuses to have his house immunized."

The doctor believes that the radio station's criticisms against DDT are unfounded: "Contrary to what the Voice of America preaches, a study recently conducted by WHO showed that persons who work in close contact with DDT are the most immune to cancer.

"At times, it is not that a resident refuses to have the walls of the shack sprayed--it is the lack of walls itself," explains the doctor. "Our teams visit settlements where 90 percent of the dwellings consist of four wooden posts driven into the ground."

Migrations are another cause of the spread of malaria. The disease was practically eradicated in the territory in 1966. The microscopic slide tests for detecting the disease produced a mere 3 percent of positive results. The index was 35 percent among the persons examined last October.

## Migrants

The arrival of migrants in the territory began in 1972, mainly for the construction of the BR-174 and the North Perimeter highways. The majority was coming from Maranhao and Rondonia, where malaria is very common.

Dr Durval Ferreira brings to a close the analysis of the causes of the spread of malaria: "The arrival of the malaria carriers provided the missing link for the spread of the disease in Roraima. The anopheles always existed, but it only becomes a transmitter of malaria to the extent that it bites an infected person and then a healthy one."

## DIRECTIVE REGULATING VACCINATION CAMPAIGN SIGNED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 9 Dec 76 p 39

[Text] This year, the Ministry of Health dispensed almost 8 million doses of antimeasles vaccine, an amount that was more than double the number of children who needed to be immunized against the disease. Notwithstanding, the incidence of measles remains high, which indicates that vaccination is not reaching the sector of the population that needs to be protected. Such shortcomings must be corrected by the implementation of the National

Immunization Program, which was enacted through a directive signed last night in Ceara Mirim, Rio Grande do Norte, by Health Minister Paulo de Almeida Machado.

The vaccination schedule for 1977 states the ages at which the various vaccines should be administered. This way, Almeida Machado expects that the waste of vaccines and the loss of time currently taking place will be lessened, and many children will be revaccinated. "There is no interest," said the minister, "in building up vaccination statistics if the doses are not intended for the people who really need to be protected. That problem does not occur solely with measles, but with the majority of the vaccines."

The directive, which establishes the norms and conditions that must be observed throughout the country to carry out the National Immunization Program, defines as obligatory the vaccines against smallpox, poliomyelitis, measles, diphtheria, tetanus, whooping cough and tuberculosis, which must be administered within the first year of age.

In the case of smallpox, in addition to children up to 1 year old, all susceptible persons--that is, who do not show a vaccination scar--will be vaccinated next year. Immunization against measles of the age group between 7 months and 3 years is also stipulated. To combat tuberculosis, the ministry proposes to protect the population up to 14 years of age by means of the administration of intradermal BCG.

Also included in the 1977 schedule are vaccinations against poliomyelitis for children from 2 months to 4 years of age, and against diphtheria, tetanus and whooping cough for children of the same age group. And children up to 5 years of age who did not get the triple vaccine will be immunized against tetanus.

Vaccination against meningitis, typhoid fever and cholera will be carried out only upon the advice of the Ministry of Health. The directive also indicates that vaccines against rubella and mumps and others containing live viruses are not recommended for mass immunization, limiting them for specific persons under the advice of a physician.

Starting in 1977, each child who is vaccinated will receive a card on which all the administered vaccines and doses will be recorded, as well as the age at which the child was immunized against each of the diseases. Starting in July 1978, this vaccination card will have to be presented by the insured under the various social security systems in order to receive the family allowance. If it is not presented or is not up to date, the family allowance will be withheld until the worker takes his child to be vaccinated.

In the opinion of the minister of health, that is not a coercive measure because the worker will not forfeit his family allowance. He will merely



not be paid on time if the vaccination card is not presented. Almeida Machado also explains that the directive provides sufficient time for all the people to learn about the program and the fact that the presentation of the card will be required only for children born after 1 July 1977.

With that requirement, the minister expects that the people will press the health units to provide the vaccines. And, according to the epidemiologists of the ministry, that pressure will lead the state health secretariats to prepare themselves to take care of the people. Adducing a chronic lack of resources and personnel, the secretariats do not manage to immunize even half of the people who should be protected against the various diseases.

#### AUTHORITIES COMBAT TYPHOID FEVER OUTBREAK IN MINAS GERAIS

Rio de Janeiro O GLOBO in Portuguese 11 Dec 76 p 8

[Text] Montes Claros--The State Health Secretariat should send today 20,000 doses of antityphoid fever vaccine for the people of Manga and Varzelandia, on the northern end of Minas, where an epidemic has been raging for 15 days. Some 12 cases have already been detected in the first city, and information from Varzelandia, although vague, lists 2 deaths per day for the past 2 weeks.

"A disease which produces strong vomit, fever and diarrhea," these are the symptoms observed in Varzelandia and reported to the capital. The request for the vaccine comes from the Regional Center of Montes Claros, with the report that the epidemic is the result of a drought that devastated the area during most of the year, forcing the population to drink stagnant water.

Medical teams from Montes Claros have been working in Manga for 15 days, but communication is precarious and the nearest health center is in Januaria, over a 200-kilometer stretch of dirt road. The secretariat is concerned not only with the mass vaccination, but also with the location and elimination of the disease sources--the water wells.

## EAST GERMANY

### PROGRESS REPORTED IN AVAILABILITY OF MEDICAL CARE

East Berlin BERLINER ZEITUNG in German 24 Nov 76 p 3

[Article by Chief Medical Officer Prof Dr sc med Ludwig Mecklinger, minister for health: "How Are Waiting and Diagnostic Periods Being Further Reduced?"]

[Text] Everyone knows what kind of impression is made by overcrowded waiting rooms, having to make appointments far in advance, and not being seen punctually, especially when naturally, one seeks help and advice from a doctor in times of sickness and trouble. This considerably damages relations between our medical facilities and the patients, even before the citizen enters the consulting room. Finally, it is also in the economic interest that no unnecessary loss of work, or sometimes even prolonged incapacity for work, should be caused by long waiting periods or time lapses between appointments and consultations.

The solution of this problem has been worked at intensively for years. Progress has been made and is being extended by the continued increase in the number of workers and assistants in health and social work and of jobs for doctors and dentists. In the course of the last 10 years, for example, the number of pediatricians in ambulatory practice has tripled. The same holds for specialists in several other disciplines. At the end of 1975 our republic had one doctor for every 540 inhabitants; in 1980 the ratio should be more than one to 500. In the case of stomatologists there will be an average of one for less than 2,000 inhabitants in 1980; in 1975 the ratio was one to 2,180.

#### Examples of Good Organization

But short waiting and diagnostic periods are primarily connected with good working organization. In almost all stationary and ambulatory facilities the workers in the socialist competition set themselves the task of making further progress in this area. The initiative of the staff in the stomatological division of the polyclinic in Frankfurt (Oder) is exemplary for everyone employed in the fields of health and social work. They developed a whole program for reducing waiting periods. "We have clearly recognized," so they wrote, "that the time which our patients spend needlessly in waiting rooms is a loss for all of us."

In many polyclinics, ambulatory treatment centers, and other facilities, the average waiting period for patients is less than 30 minutes, and in some places less than 10. Here we find more or less empty waiting rooms. But there are still facilities which do not fully exploit their opportunities for reducing waiting and diagnostic periods. Often the reasons

for this are routine, schematism and an insufficiently thought-out working organization.

The appointment system must, through a planned distribution of consulting hours in accordance with experience, be arranged so that the time of the medical staff is used in a way that is best for the patients, and putting off appointments remain rare exceptions. Experiences in reducing waiting and diagnostic periods confirm that all facilities successful in this area work consistently in accordance with an appointment system which makes sense in their specific situation. They have citizens come at less crowded times, including Saturdays and late hours. Because sufficient time is left between appointments for urgent consultations, patients without appointments can either stay or return at a convenient time. Patients incapable of working and pensioners are seen primarily in the morning, in order to keep afternoons and evenings free for people coming from work.

#### Unnecessary Procedures Can Be Eliminated

It has proven especially valuable to coordinate the reception times of laboratories, diagnostic, and X-ray departments with the consulting times. The patient is thus spared a double waiting period. In such well-run polyclinics or ambulatory facilities there is also good cooperation between the individual departments and in-patient facilities. For example, they consult with each other concerning certain patients and the best treatment for them.

In the interest of quick diagnosis and expert therapy, several large polyclinics introduced special reception departments which perform a kind of dispatcher function. Good results have been achieved by using a "duty nurse" in the polyclinics in Berlin-Prenzlauer Berg. She explains the procedures particularly to patients coming for the first time and manages everything necessary. With such a well-planned organization, especially in reception, every citizen quickly receives the necessary help.

An effective treatment depends in large measure on how quickly the causes of an illness are recognized. For this purpose, doctors rely considerably more than before on X-ray diagnosis. Requirements in this area increased significantly. The achievements in X-ray diagnosis increased to a substantially greater extent than the number of patients. Recent years have seen a gratifying development in the basis for X-ray diagnosis. Progress is being continued by the construction of new polyclinics, ambulatory facilities, and hospitals, as well as by the reconstruction of older facilities in the time frame of the five-year plan. The currently still overburdened situation in this area could be more easily mastered even today if the available X-ray diagnostic capacities were better exploited everywhere, in all bezirks and kreises.

## IMPROVEMENTS IN MEDICAL CARE DETAILED

East Berlin PRESSE-INFORMATIONEN in German 2 Dec 76 p 6

[Text] From 1970-1975, 70 new polyclinics, 265 fixed and mobile outpatient clinics as well as 570 state medical and dental offices were established in our republic. Since 1971 and to mid-1976, hospitals have been completed in Weisswasser, Schwedt and Riesa, an inpatient facility at the Halle-Kroellwitz bezirk hospital, a clinic for urology and kidney transplants in Rostock as well as a radiological clinic in Karl-Marx-Stadt. Also completed was the reconstruction or expansion of the hospitals at Haldensleben, Havelberg and Wolmirstedt and of the Erfurt gynecological clinic. Two new polyclinics, one in Berlin-Lichtenberg and another one in Dresden-Blasewitz, opened to the public in 1976. In the first half of 1976, 343 new medical and dental offices were made available to outpatients.

A start was made on the reconstruction of the Charite Hospital in Berlin and the construction of the bezirk hospitals in Karl-Marx-Stadt and Frankfurt/Oder as well as the polyclinics in Cottbus, Magdeburg-North and Teltow.

The total available for the health service amounted to more than 16,000 medical and 7,200 dental offices in the 522 polyclinics, 9,292 outpatient clinics and other facilities for outpatient care as well as the 577 hospitals.

According to the ninth party congress directive on the five-year plan approximately 2,000 more medical and dental jobs are to be provided by 1980.

Inpatient care for seriously injured or acutely ill persons has noticeably improved in recent years, following the establishment of intensive care departments and the development of accident surgery. About 1 million of the 7 million house calls every year concern emergencies. By 1980 the provision of emergency medical aid is to be completed in all kreises of our republic.

Spa treatment is a firm element in the increasingly satisfactory health care services to our citizens. Available to them last year were some 330,000 preventive, curative and convalescent spa treatments. The figure for 1970 was about 11,000 less.

Currently we have 937 antenatal clinics which systematically look after all pregnant women in our republic. Before the birth of the child every pregnant woman is examined at least 5 times and tests are made to find out whether there is any incompatibility of the mother's blood group with that of the child, or whether any infection is present and liable to damage the fetus. New tests during pregnancy, such as amniocentesis and ascertainment

of the placement of the fetus, have helped further improve the quality of medical care for the welfare of mother and child. All women give birth in clinics where preventive health care of the newborn infant begins with tests for phynylketonuria, a dangerous metabolic disease, and BCG vaccination.

Infant mortality in the German Democratic Republic declined from 18.5 to 15.7 per 1,000 live births in the period 1970-1975. Maternal mortality per 1,000 births declined from 0.43 to 0.23 in the same period. These achievements place the German Democratic Republic in the forefront internationally.

Maternity leave has been extended 4 times since the law of 1950 on the protection of mothers and children took effect: At that time 10 weeks were granted, now maternity leave amounts to 26 weeks as provided for by the joint resolution of the SED Central Committee, the FDGB Federal Executive Board and the GDR Council of Ministers on the further planned improvement of working and living conditions. Our state has earmarked M1.2 billion in the current five-year plan for this renewed extension of 18 weeks to half a year and for paid leave--every mother can claim paid leave for up to 1 year at the birth of the second and any subsequent child. In the first half of this year 98,859 children were born in our republic, 6,722 more than in the comparable period of 1974.

In 1975, 447 places in creches and permanent homes were available per 1,000 infants and children below the age of 3--in 1971 the figure was 279 per 1,000. The five-year plan directive of the Ninth SED Congress provides that the number of these places is to rise by another 35,000-55,000 by 1980. The state subsidy for each child in a creche amounts to about M200 per month. The parents pay only M25-30 monthly.

More than 65 percent of all working people in the German Democratic Republic--5.3 million citizens--receive medical care at work. Last year 2,126 full-time and 1,458 part-time physicians of all specialties worked in the 3,680 enterprise health facilities, including 500 specialists in industrial hygiene.

The enterprises dispose of 290 outpatient clinics, 109 polyclinics and 3,278 first aid posts run by physicians or nurses. Annually more than 4 million of general preventive, occupational and cancer and diabetes screenings are carried out, among others. Some 800,000 workers operating in conditions of excessive noise, dust, vibration, heat or chemical substances receive special preventive care.

Following the joint resolution on the further improvement of medical care for the people adopted in September 1973 by the Politburo of the SED Central Committee, the GDR Council of Ministers and the FDGB Federal Executive Board, 100 specialized industrial hygiene centers were established in facilities of enterprise health care and industrial hygiene in

the kreises. They are to offer specialist advice on the use of investments and the implementation of rationalization projects, so that all conditions for the best possible health protection and industrial hygiene may be guaranteed from the outset.

In the past 3 years the enterprise health services have gradually expanded medical services to women over 50 and men over 55 as well as working mothers with several children.

#### AVAILABILITY OF MEDICAL CARE

East Berlin BERLINER ZEITUNG in German 9 Dec 76 p 2

[Excerpts] Prof Dr Ludwig Mecklinger, minister for public health, recently stated that since the establishment of the GDR the average life expectancy for men has risen by about 4 years to 69 years of age and for women by about 5 years to 74 years of age. Infant mortality decreased from 18.5 per 1,000 live births in 1970 to about 14 per 1,000 live births as of August 1976. With the ratio of one physician for every 530 inhabitants, the GDR has also been able to achieve a favorable international position. The 420,000 co-workers in the field of public health and welfare are concentrating primarily on basic outpatient and inpatient treatment, in connection with which the primary emphasis is on increasing personnel in the surgical specialties, especially at inpatient facilities.

#### ECUADOR

##### PLANS TO VACCINATE MAJORITY OF CHILDREN AGAINST MEASLES

Guayaquil EL UNIVERSO in Spanish 27 Nov 76 p 16

[Text] Quito--At least 80 percent of the infantile population liable to contract measles will have been vaccinated by year end, according to an announcement made by the Ministry of Health.

##### In Conformity With International Standards

The mentioned protection, which conforms to international standards, is expected to be attained through the administration of 212,000 doses of anti-measles vaccine that have been distributed to all the provincial health centers of the nation.

##### Prevention of Respiratory Complications

It is pointed out that practically all children contract this disease during the early years of their life, but the vaccine, which is administered

to children between 1 and 2 years of age, can prevent the serious respiratory, neurological and ophthalmological complications that occasionally prove to be fatal.

The disease is very benign in developed countries, to the extent that the anti-measles vaccine is not used in a large portion of Europe. A similar thing occurs in Western Pacific countries, but in West Africa, on the contrary, measles is one of the principal causes of death among children under 5 years of age. The same occurs in other places in Africa, and in many countries of Latin America and Southeast Asia.

#### Very Contagious

It is warned in the official release that measles is much more contagious than smallpox, but a dose of the viral vaccine is sufficient to provide 95 percent protection to the child for a period of at least 4 to 5 years, and possibly for the entire lifetime of the vaccinated person.

#### NEW POLIO VACCINATION DRIVE

Quito EL TIEMPO in Spanish 6 Dec 76 p 8

[Text] Next Tuesday in Quito another phase will begin in the vaccination drive against poliomyelitis, conducted by the Ministry of Public Health to immunize children against the dread disease. Over 40 vaccination stations the location of which is known to the citizenry will provide children between the ages of 2 months and 3 years the second dose of oral type vaccine. This drive, which is part of the phase for the year's end, will last until Friday, 10 December; from 17 to 19 December, it will be extended to the rural parishes of the canton of Quito; and finally, from 27 to 30 December, it will take place in the cantons and their parishes. Poliomyelitis, or infantile paralysis, is an acute communicable disease caused by a virus. Its effect varies from mere infection to the disease itself, which appears with or without paralysis. Polio attacks mainly the child population; therefore, the Ministry of Public Health is determined to protect children by means of a massive vaccination drive that will be conducted with three doses, the first being monovalent and the other two trivalent. By now, the first dose has been administered, and the second will be given beginning next Tuesday. The third dose is scheduled for the first few months of 1977. Mothers should take their children to the public health centers and subcenters, or to the vaccination stations that are operating for this purpose.

## INFLUENZA EPIDEMIC IN MANTA

Quito EL TIEMPO in Spanish 8 Dec 76 p 2

[Text] A genuine epidemic of influenza has been ravaging the health of residents of this city since mid-November, particularly among the student sector that has been threatened by this disease, resulting in a low attendance rate at classes. According to medical reports, it is estimated that 30 percent of the population has been affected by the illness, causing great concern to public health entities which are attempting to counteract the epidemic. The causes of it have been attributed to the sharp changes in temperature, dust in the streets, lack of sanitation and the spread of flies. The symptoms of influenza are a high temperature, bleeding, nausea and other complications. The problem has become worse because the shortage of anti-influenza medicine that is beginning to occur owing to the increased demand, added to the fact that it cannot be procured promptly enough since imports of foreign medicine are subject to rationing.

## GABON

### CERTAIN DISEASES UNDER CONTROL

Libreville GABON MATIN in French 10 Nov 76 pp 1-4

[Excerpts] At a meeting of the Organization for Coordination in Control of Endemic Diseases in Central Africa [OCEAC] which opened 9 November in Libreville, Etienne Guy Mouvagha Tchioba, Gabonese minister of public health and population, discussed diseases which have been rampant in Central Africa. He said, "Some of them have become academic. That is the case with smallpox and yellow fever. Others, on the other hand, are under control, including sleeping sickness." The success of Public Health action depends on biomedical research and on training of personnel, continued Minister Tchioba.

## INDIA

### BANGLADESH, BURMA, INDIA TO SYNCHRONIZE ANTIMALARIA PLANS

Dacca THE BANGLADESH TIMES in English 24 Nov 76 pp 1, 12 BK

[Text] Delegations from Bangladesh, Burma and India meeting in Dacca at a regional conference on malaria on Tuesday had elaborate discussions on the technical problems and possible research study by the three countries to combat the dreadful disease, reports BSS [Bangladesh Sangbad Sangstha].



Discussions were based on studies already carried out by the concerned countries and the delegates exchanged views on the results obtained in their respective countries and suggested new strategy on research work. The Malaria Eradication Coordination Conference that began in Dacca on Monday concluded on Tuesday. It was attended by a seven-member Indian delegation, representative of Southeast Asia Regional Organization [WHOSEARD], New Delhi and local WHO officials. Burma was represented by Dr Myn Win, Bangladesh was represented by a nine-member delegation.

The delegates agreed to carry on research on "mosquito transmitting malaria" and its response to insecticide as means of control. They also agreed to carry research on "malaria parasite" to determine the resistance capacity of standard drugs on it and to prescribe alternative drugs.

The delegates agreed on synchronization of anti-malaria activities between the three countries along the border belts. They also agreed that there should be border meetings between the technical personnel of the three countries for exchange of data on anti-malaria activities.

The conference today was split into four technical sessions. The two sessions on Tuesday were devoted to discussions.

A conference source said that, because eradication of malaria is costly, efforts are being made to control the disease to a level that does not hamper the economic development.

In Bangladesh, work in this direction would start with the functioning of health complexes throughout the country.

India will take up the program from April next, while it has already started in Burma.

The incidence of malaria doubled last year compared to the previous year both in source said. [sentence as published] This, he said, was due to the epidemiological trend of the disease.

Delhi NATIONAL HERALD in English 24 Nov 76 p 1 BK

[Text] New Delhi, Nov 23--A modified three-pronged strategy for malaria control is to be launched early next year.

The plan of operation, drawn up by the Health Ministry, envisages sustained governmental effort. Based on increased financial allocations, more effective popular participation and stepping up of fundamental, as well as field, research.

Nearly 75 percent of the health budget of the union government is being spent on malaria control, according to an official release.

The present allocation is being doubled to provide insecticides and, particularly, anti-malarials to the worst-hit areas.

Against the current allocation of Rs. 33 crores, the modified plan will cost nearly Rs. 66 crores. The huge investment indicates the importance being attached to the problem.

About 1,200 million tablets of chloroquine are being procured for the annual requirement. About 100 million tablets are being produced indigenously, and the rest being met by imports.

With the increase in the outlay, appropriate types of insecticides will be provided in adequate quantities to the affected regions. The staff required for undertaking intensive work is also being augmented.

Pioneering studies were conducted in the country during the 1930's and 1940's, based on which intensive campaigns against malaria were launched in many parts of the world. The tempo of research slowed down with the tremendous success achieved subsequently.

With the continued use of insecticides and drugs, new problems have cropped up, which need concentrated research. Resistance of the malaria parasite to drugs is an urgent research problem. Attempts are being made to develop a vaccine against malaria at the National Institute of Communicable Diseases, Delhi, and the Post-Graduate Institute, Chandigarh. Various state governments have also initiated field researches under the guidance of the directorate of national malaria eradication program, while more intensive studies are being planned.

## INDONESIA

### NEW DOCTORS AVOID PEOPLE'S HEALTH CENTER ASSIGNMENT

Jakarta KOMPAS in Indonesian 20 Oct 76 p 2

[Excerpts] Semarang, KOMPAS--According to the chief of the Training and Education Center (PUSDIKLAT), Department of Health, Dr Wiryawan Joyosugito, the People's Health Center (PUSKESMAS) is still a "bogeyman" and is avoided by new doctors.

They do not like to be placed in PUSKESMAS and choose cities or more agreeable locations.

Their dislike can be understood because they do not yet know the center at close hand. Doctors who already "know" PUSKESMAS are no longer averse to being placed there. This is proved by an inquiry made by the Department

of Health. According to the results of this inquiry, doctors placed in PUSKESMAS generally say they are "happy both from the medical aspects with which they are confronted daily as well as from the social welfare aspects." There is only one complaint, namely, the low salary, he said.

According to Dr Wiryawan, a new doctor assigned to PUSKESMAS after graduation receives only 18,000 rupiahs a month.

Based on a decision, new medical graduates must contribute their services first to the government. In Java it is a minimum of 5 years; outside Java, 3 years. In Irian Jaya the period of service is even shorter. If this regulation is not followed, they may not work as doctors in Indonesia.

According to KAPUSDIKLAT [Chief of PUSDIKLAT], there are doctors who do not wish to conform to the above regulation. They prefer to become merchants rather than work in PUSKESMAS. Among those who are still students, there are some who purposely postpone completing their university studies. It is better to "work to become a detailman than work in PUSKESMAS."

Many doctors are still needed in Indonesia.

The present 8,000 doctors are still not enough. Only 1.2 percent of Indonesians have "ever seen" a doctor and 18.2 percent have "ever seen" a paramedic.

The addition of 1,000 new graduates each year is still not enough because not all go to PUSKESMAS. Some work in the research field, become docents in faculties, work at the National Oil and Natural Gas Company [PERTAMINA] and so on. In this year alone only 500 new doctors could be directed to PUSKESMAS.

#### ORTHOPEDIC SURGEONS

Jakarta KOMPAS in Indonesian 8 Nov 76 p 3

[Summary] Dr Sularto, president of the Association of Indonesian Orthopedists, concurrently head of the Association of Indonesian Surgeons, said that Indonesia at present has 280 surgeons, 25 of whom are orthopedic surgeons.

Plans are being made so that there will be an orthopedic surgeon in each provincial capital. Sularto estimated that his goal can be attained by 1980, if the medical faculties can produce four orthopedic surgeons every year.

He also said that in order to be able to obtain the necessary expertise it takes a technical high school graduate 13 years more of study, 6 years for general medicine, another 5 years to qualify as a surgeon and still 2 years more to be an orthopedist.

He added that the Association of Indonesian Orthopedists was accepted as a member of the International Orthopedic Surgeons, which was formed in Geneva in 1935.

#### SERVICES OF NEUROLOGISTS, PSYCHIATRISTS AND NEUROSURGEONS NEEDED

Jakarta KOMPAS in Indonesian 9 Nov 76 p 1

[Summary] The ever-accelerating pace in reconstruction has brought about corresponding changes in the social, economic and political fields. Those left behind fall victims to frustrations and feel the need for the care of a psychiatrist.

The above observation was made by Acting President Hamengkubuwono in his written welcoming address to the first congress of neurologists, psychiatrists and neurosurgeons, which opened on 8 November in the Bali Room of the Hotel Indonesia and was attended by about 250 specialists in the three fields from throughout Indonesia.

The acting president also pointed out that many doctors consider their expertise as a merchandise, although he also admitted that not a few of them are unfaltering in devoting their specialized skill to their fellow-mankind and to the community. He hoped that the medical congress will be able to exert a positive influence on the doctors so that they will show greater devotion to the community than to money.

The Association of Neurologists, Psychiatrists and Neurosurgeons boasts of 324 members, including those who are serving their residency. In Indonesia at present only the University of Indonesia, Jakarta, and Airlangga University, Surabaya, are capable of giving training in neurology and psychiatry, and as for neurosurgery one still has to go abroad.

Of the three kinds of specialization, the largest number is in psychiatry followed by neurology. There are only six neurosurgeons in Indonesia, two of whom practice in Jakarta.

#### SMALLPOX IN MOLUCCAS

Jakarta SUARA KARYA in Indonesian 10 Nov 76 p 5

[Text] Ambon (ANTARA)--Smallpox has surfaced in Tehoru (Central Moluccas) subdistrict, resulting in two elementary school students there suffering from it.

Dr Dadang S. Sorban, head of the Community Health Center in the sub-district, when contacted by an ANTARA reporter, said that he cannot be certain of the existence of an epidemic but the two cases have been

reported to the Central Moluccas Health Service and assistance has at the same time been requested, because there are no facilities or laboratory equipment to conduct further investigation.

Dr Dadang suspects that the disease originated outside the subdistrict, because at the moment many people from other regions have come to Tehoru, where cloves are being harvested at this time.

As a preventive measure, the local Community Health Center has conducted a mass vaccination program among the students and the population while awaiting help from the Health Service.

#### NUMBER OF HOSPITALS AND PUBLIC HEALTH CENTERS

Jakarta KOMPAS in Indonesian 13 Nov 76 p 3

[Excerpt] Prof Dr Siwabessy, the minister of health, has said that every public health center in Indonesia will have four specialists assigned to it. These will be a surgeon, an obstetrician, a pediatrician and an internist. He made the remark on 12 November at a ceremony at the Department of Health marking the twelfth National Health Day.

Ninety percent of all districts now have public health centers, and by the end of 1976 a total of 3,431 public health centers should be completed. At the present time there are 2,343 centers, each of which is headed by a doctor.

According to the minister, Indonesia now has 1,117 hospitals with a total of 85,000 beds. Of this number, 613 hospitals are administered by the government, the military, or state companies. Of the 613 hospitals, 299 are administered by the Department of Health or by the governments of first-level and second-level regions. The remaining 504 hospitals are privately owned, and of these 483 are maternity hospitals.

The minister also said that 11 health services areas have been designated. These areas will come under the general hospitals located in Medan, Padang, and Palembang in Sumatra, Jakarta, Bandung, Yogyakarta, Semarang and Surabaya in Java, Ujungpandang and Manado in Sulawesi, and Denpasar in Bali.

#### MENTAL HEALTH FACILITIES IN INDONESIA

Jakarta KOMPAS in Indonesian 16 Nov 76 p 3

[Excerpt] At the present time some 7,000 persons with some form of mental illness are being treated at 22 hospitals in Indonesia. Also, some 3,000 to 4,000 other such persons are being treated as outpatients. The latter

group are being treated at polyclinics and the consulting facilities of government hospitals, which total 80 units. This information was provided by Prof Dr R. Kusumanto Setyonegoro, the director of mental health, on 15 November at a seminar on mental health that is being held at the Hilton Hotel in Jakarta.

He said that 50 psychiatrists, 2,000 paramedics, and 1,000 administrative personnel are involved in the care of the 7,000 patients. There is a shortage of psychiatrists but it is expected that an additional 20 doctors will become available in the near future when they complete their training in psychiatry.

According to Prof Kusumanto there are a number of provinces in Indonesia that do not have psychiatric hospitals. These include Central Sumatra, Central Sulawesi, North Sulawesi, the Moluccas, Lampung and Timor. The program for the construction of hospitals in these areas has not yet been given the "green light," he said.

The first psychiatric hospital in Indonesia was established in Bogor in 1882. Prior to that time mental patients were treated at general hospitals, and these hospitals were found only in Jakarta, Semarang and Surabaya.

## ISRAEL

### JERUSALEM VETERINARIAN WARNS OF RABIES DANGER

Tel Aviv DAVAR in Hebrew 10 Dec 76 p 3

[Text] As of now, 45 Jerusalem residents have received treatment for rabies; 26 were people who came to the health bureau after having been bitten by a dog infected with rabies, which was killed this week.

While the chief veterinarian of Jerusalem, Dr Tomi Blumenfeld, continues to warn of the importance of discovering rabies cases in the capital, the spokeswoman for the Ministry of Health, Devora Ganani, continues to claim that there is no reason for creating panic and hysteria among the public.

Yesterday, another three dogs were brought in by their owners to the quarantine station in Jerusalem, after it was learned that they had been in contact with the dog infected with rabies. There are today at the Jerusalem quarantine station 14 dogs who came into contact with the infected dog, and dozens of stray dogs have been destroyed by the veterinary department.

The chief veterinarian of the city said yesterday in response to a question that it will take at least a half year until we know "whether we have finished with this," because the incubation period of the microorganism

can take up to several months before the symptoms appear. He noted that dog owners who have let their dogs wander freely do not know if their dogs have come into contact with the infected dog--and it is not impossible that a certain percentage have been stricken with rabies, the signs of which can appear anywhere from 10 days to 8 months after the time of infection.

According to him, when the symptoms finally appear, it is too late. In contrast to other diseases, rabies spreads in an "explosive" form, for the infected dog bites any living creature that comes into contact with it, and the symptoms take some time to appear afterwards.

In the meantime, yesterday there were long lines of dog owners at both the city department as well as at private veterinarians, of dog owners who hurried to inoculate their dogs as a result of the publicizing of the danger of rabies spreading over Jerusalem.

It is noted that dog owners who have inoculated their dogs at an earlier date may be more reassured, although they are also being asked by the chief veterinarian not to let their dogs out alone. For the immediate future, the city will increase its efforts to pick up stray dogs in Jerusalem, and those dogs will be destroyed.

The spokeswoman of the Ministry of Health, Devora Ganani, yesterday again claimed that there is no reason for the creation of the atmosphere of panic which has prevailed in Jerusalem as a result of the publicity by the chief veterinarian of the city. She noted that in every year there are a number of dogs discovered to be infected, and that there is definitely reason for caution. But according to her, it would have been sufficient to announce that everyone bitten by a dog should come to the health bureau, and that there was no cause to have created a panic in the city. She said: "We are in favor of calm and specific information."

The agricultural affairs correspondent for DAVAR reports:

Today, the veterinary services of the Ministry of Agriculture will assemble eight squads for the war on rabies. Six of them will begin to operate on Sunday in Judah and Samaria, and two in the region of Jerusalem. In Jerusalem itself, the municipal veterinarians will continue their current operations.

Yesterday, the war on rabies was coordinated between the director of veterinary services, Dr A. Shimshoni, and the director of the Nature Conservation Authority, M.K. Avraham Yaffe, and it has been learned that stray dogs will be destroyed with both poisoned meat as well as gunfire.

It was reported that the source of the rabies is to be found among the jackals and foxes which wander along the Jordan River; it is of course impossible to destroy all of these animals. This year, the veterinary

services carried out 55,000 inoculations against rabies as compared to 51,000 in 1975. In 1973, 13 cases of rabies were treated, as compared to 10 cases in 1974. In the last 2 years, there have been no reported cases of rabies, but more than 7,000 inoculations were performed in 1975 as opposed to more than 2,000 in 1974.

The veterinary department of Tel Aviv-Yaffo issued a warning to dog owners to keep their dogs on leashes and to prevent their wandering in the streets, because of the fear of a spread of rabies in the city in the wake of the appearance of the disease in the region of Jerusalem. Every stray dog found in the city will be destroyed.

## JORDAN

### CHOLERA EPIDEMIC BROUGHT UNDER CONTROL

Amman AL-DUSTUR in Arabic 13 Oct 76 pp 1, 11

[Text] His Excellency Mudar Badran, the prime minister, yesterday chaired a meeting at the Ministry of the Interior attended by their excellencies the ministers of the interior and health, the mayor of the capital, the deputy ministers of the interior, of health and of municipal and rural affairs, the director of civil defense, the assistant director of public security, and a number of officials from the city government, the Ministry of Reconstruction and Development and the relief agency.

#### The Health Situation

His excellency spoke, at the beginning of the meeting, on the health situation within the kingdom. He confirmed that the situation is completely calm thanks to the efforts and precautions taken by the agencies assigned to combat cholera.

His excellency the prime minister added that this disease is under complete control, that those stricken with it are now being treated in state hospitals and that they are receiving fine medical care.

#### Intensified Precautions

He said that the precautions at the first outbreak were intensive and that the Ministry of Health is cooperating to the utmost of its abilities with the agencies assigned to combat this disease to insure its prevention before it occurs.

His excellency pointed out the importance of all of the responsible agencies' joining in to keep this disease within the narrowest possible confines.



His excellency the prime minister requested the responsible agencies to inoculate travelers entering the kingdom at the various border stations.

He said that a number of committees have been formed in the refugee camps at al-Buq'ah, al-Wahdat, Shinlar, and al-Talibiyah. They will provide health warnings to the citizens. He spoke in especially glowing terms of the citizens' efforts in the al-Wahdat camp.

#### Cleanliness of Water Supplies

He confirmed the attention which the government is paying to the cleanliness of water supplies, especially drinking water and its sterilization. He said that this, along with inoculation and preventative measures, is the basis for the prevention of cholera.

His Excellency Mudar Badran requested that the ministers of health, the interior and municipalities make joint efforts to insure the continual sterilization of water in various areas throughout the kingdom.

His excellency the prime minister confirmed that all the responsible precautions and steps necessary to control this disease and to insure its prevention among the citizenry have been taken. Among these steps are the campaigns for inoculation and the sterilization of drinking water which will be completed within 1 week.

His excellency the prime minister touched upon the subject of the pilgrimage. He confirmed the necessity of paying attention to the cleanliness of the pilgrims' cities and of locating medical aid centers along the roads which the pilgrim caravans follow on their way to Saudi Arabia and on their return across the land of the Hashimite Kingdom of Jordan.

Doctor Muhammad al-Bashir, the minister of health, also spoke. He pointed out that his ministry is exerting the utmost effort to insure complete prevention of this disease among the citizens.

He added that, until now, 200,000 doses have been distributed to health centers and clinics within the kingdom to inoculate citizens against cholera.

He said that the number of cases does not exceed 35, all of which have been treated.

Then His Excellency Sulayman 'Arar, minister of interior, spoke. He said that his ministry is about to establish communications with officials in the Syrian Arab Republic and the Republic of Turkey in order to coordinate everything connected with insuring appropriate health conditions for pilgrims coming from those countries.

## KENYA

### NEW CHOLERA OUTBREAK IN KENYA REPORTED

Warsaw TRYBUNA LUDU in Polish 24-25-26 Dec 76 p 2

[Text] According to a PAP [Polish Press Agency] news release from London, the Kenyan press agency has reported the eruption of a new cholera epidemic in Nianza Province. To date 150 cases of cholera have been recorded in the Siaya district, several of which have been fatal.

In connection with the epidemic, the provincial authorities have closed for an unspecified period of time a number of bazaars, hotels, and institutions, conditions in which did not meet health requirements. All public gatherings have been prohibited. All state employees' leaves have been cancelled. Special medical teams have been directed to the areas hit by the epidemic.

## MADAGASCAR

### SCIENTISTS SAY CURE FOR LEPROSY FOUND

Tananarive MADAGASCAR MATIN in French 19, 20 Oct 76

[19 Oct 76, pp 1, 3]

[Text] Antananarivo--A team of Malagasy scientists has just discovered a medicinal plant whose active products, which are completely devoid of toxicity, cure certain forms of leprosy in a few months. This team, headed by Prof Jean Martin Razafintsalama, director of the laboratory of structural organic chemistry at Ampasampito and director general of the national research center on medicinal plants at Androhibe, is made up of a few technicians and two doctors of science, i.e., Philippe Rasoanaivo and Miss Rabodo Andriatsiferana, lecturer at the University of Madagascar.

This medicinal plant which has quasi-miraculous properties has been tested at the Manankavaly leprosy center. The results obtained are very encouraging. Indeed, when isolated, the active principles of this plant have allowed some 30 persons afflicted with scabies and other skin ailments (including burns) to be cured and have induced rapid healing of leprosy lesions in 7 to 8 months. To develop this drug, the researchers headed by Prof Jean Martin Razafintsalama, who will be aided from now on by scientists from the national research center on medicinal plants at Androhibe, took into consideration the empirical knowledge of traditional healers about medicinal plants. They then prepared the total extracts of a plant, which were subsequently to serve for pharmacological testing.

This testing allowed proof of the properties announced by the healers, i.e., the "pharmacological specificity" of the product. When the chemistry laboratory had isolated the active products of the plant in the nearly pure state, pharmacology studied their toxicity because a pharmacological product may be both a cure and a poison for man. This study permitted demonstration that this toxicity is practically nil. The scientists thus decided to carry out clinical trials with Dr Charles Razafintsalama, director of the leprosarium at Manankavaly and head of the Dermatology Department at the Tananarive Institute of Social Hygiene.

Last Saturday, Lt Col Desire Rakotoarijaona, member of the Supreme Revolutionary Council, and his wife and Dr Remi Tiandraza, minister of scientific research, accompanied by Mr Rakotomaria, secretary general of the Ministry of Scientific Research, by Mr Ramiaramanana, director of pharmacy and laboratories at the Ministry of Health, representing "his" minister, and by Mr Rabesabotsy, director of technological development at the Ministry of Scientific Research, journeyed to the leprosarium at Manankavaly to see at first hand the patients who have been cured by the splendid drug made from our medicinal plants.

In his brief speech given on this occasion, Lt Col Desire Rakotoarijaona first extended President Didier Ratsiraka's greetings to the leprosarium patients. He then stated that the Malagasy scientists headed by Prof Jean Martin Razafintsalama have made a sensational--even a miraculous--discovery because many scientists throughout the world are still struggling feverishly against leprosy, a disease which until now was incurable.

President Didier Ratsiraka and the entire government therefore thank them warmly because they have adhered to the overall strategy advocated by the Charter of the Socialist Revolution, which has allowed them to make this sensational discovery that has aroused hope in lepers and has given them a new zest for life. Lt Col Desire Rakotoarijaona also stressed in his speech that the new Ministry of Scientific Research has just demonstrated its usefulness by this discovery of a plant capable of curing leprosy; he went on to exhort the administrative subdivisions (fokonolona) to protect our flora and fauna against forest fires because they represent inestimable national treasures.

The flora in particular, which includes some 12,000 flowering plants, may yet in fact offer numerous medicinal plants to our country and to humanity as a whole. It should also be noted that the national research center on medicinal plants at Androhibe is currently studying other medicinal plants.

[20 Oct 76, pp 1, 3]

[Text] Three events in the field of health marked the scene Saturday morning: the acupuncture operation at the Bejofo-Mahitsy hospital which freed a 19-year-old girl from a 23.5-kg cyst; the first press conference held by the minister of health, Dr Jean Jacques Seraphin; and the visit

of the minister of scientific and technological research to the lepro-sarium at Manankavaly, accompanied by Lt Col Desire Rakotoarijaona, member of the CSR [Supreme Revolutionary Council], and by the team from the national research center on medicinal plants at Androhibe.

Yesterday we spoke with Minister Remi Tiandraza to obtain more complete information on this matter.

What we learned from this interview is that the importance of this event consists not only in the fact that the visit gave these dignitaries the opportunity to see at first hand the results successfully obtained on some 20-odd lepers by the team from the Androhibe research center, who discovered the secret of a major anti-inflammatory cicatrizant drug derived from a medicinal plant.

As Minister Remi Tiandraza explained, this medicinal plant was tested in powder and ointment forms on the most refractory sores found at Manankavaly. And after 3-4 months the sores previously judged to be unhealable were healed.

This is a good start for us, because the plant occurs in Madagascar and is readily cultivated commercially; the studies were carried out at the locality with the means available; above all, we possess a very fine team of scientists, especially at the research center on medicinal plants, a team currently made up of Prof Jean Martin Razafintsalama, director general of the center, and two doctors of science, Philippe Rasoanaivo and Miss Rabodo Andriantsiferana.

Minister Tiandraza pointed out that "Dr Rasoanaivo especially is a true 'monument' who will go far in scientific research. We must say that Professor Razafintsalama knows how to choose his coworkers so as to form a very fine dynamic team."

But the event is important mainly because this discovery gave Dr Remi Tiandraza the opportunity to define once again the role and the objectives of the Ministry of Scientific and Technological Research [MRST], which are still not understood and sometimes even contested.

The MRST has a prime role in setting up the country's independence according to the "self-reliance" principle. And the ministry's first objective is to build up a specifically Malagasy technology, a technology generally capable of satisfying each person and the whole person from the point of view of food, health, education, jobs, housing, etc.

The ministry's existence is thus self-explanatory: the discovery of this independent Malagasy technology, currently under development, by encouraging, restoring, launching, and discovering our own specific technologies from the initiative and creative minds of scientists, as a function of the country's basic needs, and by restoring traditional medicine to its value and position.

Which in no way means going backwards in medical care, for example. As Minister Tiandraza stressed: "Traditional medicine and Western medicine complement one another. We need only look at Chinese medicine to see that."

Further, many drugs are made from medicinal plants, such as the Malagasy plants. But research and patenting are carried out in other countries and thus do not benefit the population as a whole.

"This is what made the government decide to become involved with medicinal plants.

"For this we must work together with empirical scientists in order to derive maximum use from the results of their discoveries. Take the case of the healer from Ambanja who is able to take care of fractures in a very short time by means of a plant, without using plaster casts."

The role of the MRST is thus to contact the empirical scientists and to aid them in pursuing their discoveries, to make them realize the utility of their empirical knowledge to the life of the nation, and to derive patentable data therefrom. All of which will benefit the nation and the empirical scientists themselves.

"The task that we must undertake to obtain this cooperation is difficult but extremely exciting: put the empirical scientists in positions of trust, learn to recognize the benefits of their research, and demystify their position. Because during the colonization they were treated as witch doctors."

But the role of the MRST is not limited to the field of health, because it must act to satisfy the country's needs and has a prime role in our struggle for economic independence.

It must thus cooperate closely with all the technical ministries, such as Health, Economy, and the MDRRA [Ministry of Rural Development and Agricultural Reform]. It operates at a "higher level" whereas the other technical ministries operate "further down the line," as the task of the latter is to utilize research results and apply them to production.

This is why the MRST has three directorates, because it harmonizes and coordinates the work of the various research centers and distributes the results of these researches to the ministries concerned.

The three are the Directorate for Programming and Orienting Scientific and Technological Research; the Directorate for Technical Support and Documentation, whose duties are purchasing and maintenance; and finally the Directorate for Technological Development and Prepopularization.

Further, the MRST cooperates with the university to see that the research conducted there coincides with the country's needs.

At the close of this interview we were truly hopeful with respect to the future of scientific and technological research in Madagascar. In the foreseeable future its results will be utilized locally, in factories which will be created. In the long run this will not only improve people's health, raise farm production, and increase our exports of various products, but most of all it will bring in cash.

## MALAYSIA

### DENGUE FEVER CASES

Kuala Lumpur Domestic Service in English 0000 GMT 26 Nov 76 BK

[Text] The increasing incidents of dengue fever, especially in the federal capital and Selangor is causing concern to the Ministry of Health. Out of 33 cases reported throughout peninsular Malaysia, 10, including one death, were reported in Selangor and 15 cases, including one death, were reported in the federal territory during the early part of this month. So far this year there were 146 cases and 13 deaths in the federal capital. For the whole of peninsular Malaysia, the death toll stood at 39 out of a total of 395 cases reported up to 20 November.

## MOROCCO

### TUBERCULOSIS EPIDEMIOLOGY STUDIES SHOW DECREASE IN INCIDENCE

Rabat L'OPINION in French 13 Nov 76 p 4

[Report by Professor Bouzekri, secretary general of the Moroccan Tuberculosis League]

[Text] Professor Bouzekri began his report by saying that knowledge of requirements and knowledge of morbidity are needed in order to establish a therapeutic policy according to actual needs.

The first epidemiological studies, conducted by Dr Lapin in 1923, reported that the percentage of tuberculosis was then on the order of 23 percent.

So therefore tuberculosis was extremely widespread.

The next epidemiological studies were conducted in 1947, thanks to the introduction of such methods as radiologic examinations and skin tests.

These studies showed that the frequency of tuberculous infection was high. But they particularly showed a much greater incidence in the cities and [as published] in the rural areas.

The studies also showed that the frequency of infection principally depended on social conditions.

In 1949-1951 it was possible to set up a tuberculin index of educated and uneducated populations.

The establishment of this index was based on extensive investigations.

The results of this study were comparable with those of the preceding study. Indeed it showed equivalent tuberculosis morbidity in the various regions, and that social factors were very influential.

Dr Bouzekri continued his speech by discussing the means at our disposal for becoming conversant with tuberculosis epidemiology in Morocco.

Annual reports do not convey an exact idea of that epidemiology. It is apparent from Dr Bouzekri's study that, according to results of tuberculin tests carried out in the school environment, the average annual incidence of tuberculosis between 1966 and 1975 varies from 1.4 to 1.8 percent.

Then, speaking of new cases of tuberculosis detected in Morocco, Dr Bouzekri pointed out that even when the number of new tuberculosis cases began to decrease (149 per 100,000 inhabitants were detected in 1949, 91 per 100,000 in 1975), the number of new cases of pulmonary tuberculosis increased (9,210 cases in 1966 and 12,250 cases in 1974).

Speaking of deaths from tuberculosis, Professor Bouzekri showed that the number of deaths has decreased.

Professor Bouzekri ended his report by concluding that Morocco is still a country with a heavy prevalence of tuberculosis. We are beginning to grasp the breadth and extent of the problem.

Preventive action meanwhile should be supported and legislated.

Preventive action by vaccination of healthy subjects for their protection.

Vaccination of all newborn. Otherwise, vaccination of those children of 0 to 4 years who have not been vaccinated at birth.

Or vaccination, after skin tests in primary, secondary, or higher schools, within the framework of school health departments.

Tuberculosis detection should be conducted with the aid of dispensaries distributed throughout the territory.

## PERU

### DEATHS FROM MEASLES, COLIC IN AREQUIPA DEPARTMENT

Lima EL COMERCIO in Spanish 11 Nov 76 p 1

[Text] Arequipa, 10 Nov--Some 88 persons, the majority of them children, died in the village of San Juan de Tarucani as a result of an epidemic of measles, convulsive cough and colic, it was reported today by Vicente Rivera Alegre, municipal control inspector of the Provincial Council.

In a visit made by that councilman to the mentioned village--located more than 150 kilometers from Arequipa and at an altitude of 3,800 meters above sea level--he verified that 10 percent of the population had died as a result of the epidemics, and the rest of the inhabitants are in danger unless immediate measures are adopted.

The mayor of the district of San Juan de Tarucani, Asilio Quispe Chancolla, who has been in office for 6 years, conveyed through Inspector Rivera Alegre a request for the medical authorities of Arequipa to dispatch immediately doctors and medicines to take care of the inhabitants.

For its part, the Arequipa Town Council resolved to arrange with the proper authorities to provide immediate assistance for the inhabitants of San Juan de Tarucani and to set up a medical facility.

### VACCINATION DRIVE REPORTED IN LA VICTORIA

Lima EL COMERCIO in Spanish 30 Nov 76 p 8

[Text] More than 14,000 children of ages ranging from 2 months to 3 years from various sections of the district of La Victoria were simultaneously immunized against four diseases (tetanus, polio, diphtheria and measles) under the preventive program which is being conducted by the Max Arias Schreiber Health Center.

Dr Mario Romo Mayuri, director of the mentioned center, said that the immunization program also includes a census of the inhabitants of La Victoria, Balconcillo and Santa Catalina in order to determine the state of health of the children of those sections.

He explained that the vaccination program effected yesterday constitutes the first phase, and that three others will be carried out to cover all the population within the jurisdiction of that health center.

The vaccination phases in question are being conducted with the cooperation of 70 Social Security student nurses under the direction of Miss Agustina Robles.



He explained that by means of the same immunization program, mothers are advised that vaccination is the best form of life insurance and are exhorted to lend their support to the campaign.

## REPUBLIC OF CHINA

### POLICY ON TRADITIONAL CHINESE MEDICINE

Taipei CHUNG-YANG JIH-PAO in Chinese 21 Jul 76 p 7

[Text] The Taiwan Provincial Assembly advised the government to include traditional Chinese medicine in the public medical care program and to include departments of traditional Chinese medicine in the state-run hospitals, so that patients can choose their preferred form of treatment. The provincial government has turned the suggestion over to the Public Health Office of the Administrative Yuan for study.

The provincial government today sent a written reply to the provincial assembly stating that its suggestion for inclusion of traditional Chinese medicine in the public medical care program has been answered by the Central Office to the effect that because the free medical treatment plan currently in force is based on Western medicine and is primarily administered by the state-run hospitals, the inclusion of traditional Chinese medicine in public medical care would be impracticable under the present laws. Moreover, traditional Chinese medicine lacks the definite pharmaceutical standards of Western medicine and traditional Chinese medicinal preparations vary in quality and in price; it would be difficult to standardize. In addition, practitioners of traditional medicine are by and large individual practitioners and have no positions at the state-owned hospitals. Accordingly the inclusion of traditional Chinese medicine in medical services is subject to the regulation that the agencies contracting for medical care must first contract with the state-owned hospitals, so that the public health control agencies would have to first set up hospitals for Chinese traditional medicine or set up traditional Chinese medicine departments in existing hospitals before anything else could be done.

### TEN MAJOR CAUSES OF DEATH IN ROC

Taipei CHUNG-YANG JIH-PAO in Chinese 24 Jul 76 p 2

[Text] The 10 main causes of death in the Taiwan district last year show a marked decline in the number of deaths from infectious diseases, while deaths from diseases of aging and from accidents (automobile accidents) are increasing year by year. The Public Health Office of the Administrative

Yuan has made public the 10 major causes of death in 1975. They are, in order, arteriosclerosis, malignancy, accident, heart disease, pneumonia, tuberculosis, cirrhosis of the liver, bronchitis/pulmonary edema/asthma, high blood pressure, and suicide and self-inflicted injury. Comparing the rankings of major causes of death over the last 5 years, the first four are unchanged, but in terms of death rate arteriosclerosis has been declining in the last 2 years in absolute numbers while the other three are on the increase. Compared with 1971, malignancies have increased by about 11.32 percent and accidents by 26.79 percent, while deaths from heart disease have increased by 13.89 percent. Pneumonia and tuberculosis have changed places in the ranking, but the death rate from both has been decreasing. Compared with 1971, pneumonia deaths have decreased by 12.91 percent and tuberculosis deaths by 24.20 percent.

#### TREATMENT OF FILARIA ON QUEMOY

Taipei CHUNG-YANG JIH-PAO in Chinese 21 Jul 76 p 7

[Text] After a long struggle to eradicate filaria on Little Quemoy island, the government this year has decided to begin a comprehensive prevention program on Big Quemoy, making use of medicated table salt. The aim is thoroughly to wipe out filaria, which has been rampant on Quemoy for more than 100 years.

In this special program the government will allocate more than 2,640,000 yuan to purchase a special medicated table salt that has been proven an effective preventive of filaria, which is transmitted by a tropical mosquito; in addition, the Taiwan Salt Manufactory, the Office of Public Health and the Yang-Ming [7122 2494] Hospital, the Defense Medical Institute and Quemoy Public Health Institute will apply the experiences and results of the Little Quemoy medicated table salt program on a comprehensive scale to Big Quemoy.

The brilliant results of the government's medicated salt program on Little Quemoy have set a successful example of the effective control of filaria for the international medical world and have attracted widespread attention from world health organizations. Accordingly, the government has great confidence that the new large-scale preventive measures will completely eradicate filaria from Quemoy and forever protect the health of the masses.

## TURKEY

### UNIDENTIFIED DISEASE CAUSES CONCERN IN ESKISEHIR

Istanbul AKSAM in Turkish 31 Oct 76 p 5

[Text] Eskisehir (Turkish News Agency)--An unidentified disease has struck Eskisehir following an incident of escaping fumes at the sugar plant. A secret provincial meeting was held to discuss the disease.

People have been admitted to the State Hospital and the SSK [Social Security Organization] Hospital complaining of an illness for which they know no cause. They say the doctors can find no treatment.

A ban on conversations with the patients, who have been placed in isolation wards in the hospitals, has made it impossible to obtain information.

Hospital authorities state that symptoms of the disease are coughing, vomiting, and diarrhea, and an investigatory committee has been requested from the Ministry of Health and Social Assistance to find a cure for the disease, but they avoid giving extensive information about the disease.

#### School Concessions Closed

Authorities said that all canteens in the primary, middle and high schools have been closed and that precautions have been taken against the disease. They said that absenteeism has started in the schools and for this reason they have decided that no unwrapped food should be purchased and no beverages should be sold unless passed by the health board.

Authorities state that 30 persons a day are being admitted to SSK Hospital and State Hospital with an unidentified disease. They held a secret meeting at the province about it. Hospital directors, school doctors, and the health director attended the secret meeting. No announcement was made after the meeting.

Unnamed officials have charged, moreover, that the unidentified disease is being kept secret because the pilgrimage season has begun.

### INFLUENZA REACHING EPIDEMIC PROPORTIONS

Istanbul HURRIYET in Turkish 23 Oct 76 pp 1, 11

[Text] Sudden changes in temperature have led to severe colds, chills and cases of influenza throughout Turkey. Absenteeism at schools is increasing and work is slowing down at places of business because of the spread of contagious diseases.

In large cities such as Istanbul and Izmir, at least 40 of every 100 persons have been stricken with severe colds, flu or chills.

Persons of all ages and children in particular have been confined in bed with symptoms of "severe colds along with fever, weakness, diarrhea, sore throats and headaches." Meanwhile, Prof Dr Melahat Onul reported that "swine flu," which is spreading disaster in a number of countries, is not being encountered in Turkey, but added that measures must be taken now to defend against this danger. In addition, doctors are urging persons stricken with contagious diseases to rest at home for 2 or 3 days and are warning people that if they do not, the illness may drag on and cause great harm to their bodies.

#### Do Not Dress Lightly

Doctors note that the occasional appearance of the sun despite sudden drops in temperature is deceptive and assert that the greatest mistake is to wear light clothing. Doctors recommend that people not leave home dressed lightly and that, in particular, they avoid activities that cause them to perspire. They say, "Infectious influenza that causes fever, headaches and vomiting and cases of diarrhea are being seen. It is necessary to wash food very carefully in order to combat this. With these diseases, which are spreading rapidly, breaking out into a cold sweat is the first symptom. Later, a person who has the flu begins to shiver. Headaches become unbearable from time to time. Vomiting is likely. It is necessary to fortify one's body with vitamin C at the onset of a flu infection."

Absenteeism at schools has increased gradually because of influenza, severe colds, sore throats and similar illnesses. It has been reported that most of the persons on sick leave from government offices have contagious diseases. Furthermore, work at a number of places of business is being disrupted by infectious diseases.

#### INCIDENCE OF MALARIA

Istanbul CUMHURIYET in Turkish 24 Oct 76 p 9

[Article by Nazmi Akdag]

[Text] Mersin regional Malaria Control Department announced that the number of malaria victims in the Mersin region has increased drastically in the last 5 years.

Head of the Malaria Department, Ahmet Polat, and the office director, Huseyin Ugur, announced jointly that the number of persons suffering from malaria in Mersin and its districts has increased from 6 persons in 1971 to 10,000 today. "The recent fight against malaria has not been

sufficient. The struggle against malaria is being carried out in 560 villages of Icel by only 69 specialists and only four vehicles.

"The anopheles mosquitoes found in large quantities in the Mersin area are contributing greatly to the spread of the disease. Thousands of sick persons are asking for help, but we are only able to provide them with pills. It is well known that this is not an effective way of fighting the disease."

On the other hand, the minister of health and social welfare, Kemal Demir, has recently announced that there is no increase in the reported malaria cases in Mersin and vicinity. In reply, RPP Deputy Cetin Yilmaz sent a telegram to the minister accusing him of knowingly misinforming the public.

The deputy's telegram reads:

Today there are 10,000 people in the rural segments of Icel suffering from malaria as a result of primitive farming techniques and inefficient protection of health.

I am calling your attention again to the catastrophe which you never admitted exists despite all our previous warnings. Best regards.

Istanbul AKSAM in Turkish 12 Nov 76 pp 1, 7

[Text] Adana--THA--Adana Malaria Eradication Acting Director Murat Oktay has reported that the number of residents within the borders of Adana Province stricken with malaria has climbed to 13,695 and that the total number of malaria cases in 1975 was 3,085.

Oktay, who spoke with a THA [Turkish News Agency] correspondent about the reasons for this year's large increase in malaria cases, said:

"Today, we have no insecticide that kills mosquitoes and has a lasting effect. The amount of existing equipment and the number of personnel are inadequate. Because of a law that was passed with the reasoning that eradication is being prevented, civil servants who retire from the malaria-prevention organization are not being replaced. This also results in a significant personnel shortage. The workers that are released from jobs each year are seasoned workers. New employees will be hired in places where necessary.

"This year, there has been a great increase in the number of malaria cases. The number has climbed to 13,695. The number last year was 3,085. I have cited the reasons for this increase. The battle against malaria will continue during the winter months. Treatments in the form of chemical sprays will be used in order to kill mature mosquitoes. In addition, one of our methods of combating malaria is to insure that food containing

sulfa drugs is available to a fish called gambusia so that it can multiply in places where mosquitoes breed.

"We obtain the addresses of persons stricken with malaria and give the persons the medicines needed for use in their homes. However, we do not have the resources to keep them under continual medical supervision. Appropriations sent by the ministry are, in our opinion, sufficient."

Okday said that the winter program to combat malaria will begin 15 December. In response to the question, "Why are you dismissing qualified workers?," he answered, "We are obeying the law."

Istanbul AKSAM in Turkish 20 Nov 76 pp 1, 7

[Text] Denizli (Turkish News Agency)--Health teams [omission] in private and public institutions in response to the occurrence of two cases of malaria in Denizli.

While informing the public that controls were being tightened in the schools and public places to prevent spread of the disease, Health Directorate authorities also announced that the two patients found to have malaria had received prompt treatment.

The authorities said that the schools had been disinfected and blood samples taken from the students for tests. No new incidence of malaria was found as a result of the tests, they said.

In addition, authorities from the office of the regional chairman of malaria eradication said that in the past 10 months in Denizli, 11 cases of malaria had been found in tests of blood samples from 40,889 persons from the capital and 462 villages. The patients were treated and spread of the disease was prevented, they said.

#### HEPATITIS SAID SPREADING IN ADANA

Istanbul AKSAM in Turkish 17 Nov 76 pp 1, 7

[Text] Adana (Turkish News Agency)--Infectious hepatitis has begun to spread in Adana and an inoculation program to protect children from the disease has been initiated in the primary schools.

Health Director Dr Nevzat Arman said that 10-15 new cases are occurring every day in Adana and that the necessary disease-prevention measures are being taken.

Arman made the following statement on the causes of the outbreak of infectious hepatitis:

"Infectious hepatitis is being spread by infected water. The city was not adding sufficient chlorine to the water. We are now disinfecting the water by adding large quantities of chlorine. We have informed school authorities that the children should not use city water for a specific period of time and that other foods should be checked also. We have a program to enforce this.

#### Preventives

"We have now instituted the necessary preventives against the disease. I believe we have a sufficient supply of gamma globulin as a result of consultation with the ministry. I ask of the public only that they not panic. We have the full cooperation of city hall. Our efforts are coordinated. At present, we have determined that there are 10-15 occurrences daily outside of the schools. If the disease shows any further tendency to spread, we will close the schools."

#### ERZINCAN HOSPITAL REPORTS 91 CHOLERA CASES

Istanbul CUMHURİYET in Turkish 21 Nov 76 pp 1, 9

[Text] Ankara (Ankara News Agency)--According to reports, 91 cases of cholera have been officially diagnosed at Erzincan State Hospital, of which about 20 have died and 46 are currently undergoing treatment. The reports also attest that the bodies of the 20 or so patients who died were not returned to their families but were buried in aluminum coffins.

Republican People's Party [RPP] Erzincan Senator Niyazi Unsal, in revealing the information he had obtained based on accounts and minutes taken in Erzincan, said that one hospital official had told him that "everybody in the hospital from the head surgeon to the orderlies is a cholera carrier." Unsal said that the eye, ear, nose and throat specialist, Dr Beyhan Ozipek, and his clinic nurse, Hatice Yildiz, were among those diagnosed as having cholera and were placed under observation in the hospital. Erzincan National Deputy Hasan Cetinkaya's nephew and Cetinkaya himself were also found to have cholera, Unsal said.

Senator Unsal admitted that the government had instructed the health organizations to describe the cholera as an "intestinal infection," and said this had been done so that the neighboring countries would not interfere with those who were going on pilgrimage to Mecca.

Noting that the medical name of the disease is "Vibrio Cholera el tor Ogeva," the Erzincan senator listed as follows the names he was able to learn of local citizens who died of cholera: Zihni Yaman, Ahmet Yaman, Hursit Yasar, Muzaffer Yuce.

Senator Unsal said, moreover, that a sewer line had burst in the kitchen at Erzincan State Hospital. Unsal learned about this from a memo signed by the National Salvation Party and RPP central district chairmen. The memo recorded the hospital's chief surgeon, Dr Nevzat Okur, and hospital director, Mustafa Dogan, as saying, "Toilet waste water which is collected in the septic tank flooded the hospital kitchen and the refrigerator in which meat is stored in the kitchen."

Niyazi Unsal said that hospital authorities requested 80,000 liras from the ministry for repairs but they said the ministry had denied the request.

Elsewhere, seven persons in two villages of the Kanarca district of Sakarya contracted an intestinal infection.

The villagers thought it was cholera and took the patients to Izmit State Hospital. They notified the Sakarya health teams who responded immediately, checked all village water supplies, and chlorinated the wells. Authorities announced that the local illness was an intestinal infection caused by the well water and had no relation to cholera.

#### USSR

##### WORK CONTINUES ON INFLUENZA VACCINES

Moscow TRUD in Russian 7 Sep 76 p 3

[Article by P. Burgasov, academician of the USSR Academy of Medical Sciences, USSR sanitary physician general, USSR deputy minister of health: "Measures To Be Taken Against the Possible Epidemic of Flu"]

[Text] During the fall of 1975 and the winter of 1976 the influenza epidemics caused by a new mutation of virus A (Victoria) 75 (the name is given according to the place of the first isolation in Australia) spread through many countries. Because of the frequency and relative ease of contacts between countries and continents the insidious virus spread quickly. Starting in many European and North American countries in January 1976 influenza epidemics during May-June swept through Argentina, Chile, Uruguay, the South Sea Islands, the South African countries and Singapore.

And what is the situation today? According to the official records of WHO no further increase in the epidemics of the A (Victoria) 75 influenza has been registered. But attention has been focused on its remote precursor, the so-called swine flu virus which in the past was closely connected with the pandemic of Spanish influenza. (Last time it took place in the 1920's and carried away millions of people's lives.)



Here are some details. Quite recently a sensational news item spanned the globe. In New Jersey (United States) in January 1976 there was a group outbreak of influenza among army recruits. An influenza virus whose basic characteristics closely resembled those of the swine flu virus was isolated in the corpse of a victim. Detailed analysis of this virus in the United States moved famous scientists of the country to appeal to President Ford to consider measures for preventive vaccination of the American population against this virus. For this reason a killed flu vaccine was prepared from a newly isolated virus and administered to a group of people. The result of the research showed that the subcutaneous injection of the killed influenza vaccine caused the formation of antiviral antigens in the blood. Their role should be either to protect a patient from possible infection or to facilitate the clinical course of the disease.

Naturally many people are concerned as to whether or not there will be an influenza epidemic in the near future and what kind of virus will cause it.

First of all it is necessary to emphasize that the virus A (Victoria) 75 which recently circulated still has a dangerous potential. The possibility of another influenza epidemic during the fall of 1976 and the winter of 1977 caused by this virus still exists. The scale and intensity of the onset of the epidemic in the cities of the country cannot be predicted earlier than 3 or 4 days after the beginning of the epidemic.

And what of the swine flu? Its brief yet consequential outbreak in the United States is very disturbing. Its appearance in our country is quite probable. Because of that, should an epidemic start, our practice of combating the flu must include not only customary measures but also measures specifically created against the swine type flu. For example, taking into consideration that Spanish influenza can precipitate pneumonia, its prevention and treatment including resuscitation of the victim must be integrated into the operative plans of the health services of the Soviet republics. There are medical and antiviral preparations and other preventive means (such as interferon, oxolene ointment, remantadene [the last two terms are possible approximations to the Russian terms]) which are rather effective against the swine flu virus.

At present the Scientific Research Institutes of Virology and the All-Union Scientific Research Institute of Influenza of the Soviet Ministry of Health are undertaking serious investigations aimed at the creation of an effective vaccine against influenza. The testing of the new medicines continues while in some cases it has already been completed. One of the projects which has proved to be successful in experiments, but which still requires extensive field testing, is the killed flu vaccine. Everybody remembers the words of President of the Soviet Academy of Sciences A. Alexandrov, said at the 25th Congress of the Communist Party, that the Institute of Nuclear Physics in Leningrad together with the Institute of Epidemiology and Microbiology imeni Pasteur are developing a new vaccine for prevention of influenza. Such research is now taking place in the

USSR. Its goal is to produce a concentrated killed vaccine from purified influenza viruses.

Right now it is too early to laud the merits and to discuss the prospects of a new preparation. We are speaking only about a vaccine designed for wide usage by the health services of the USSR. This requires detailed evaluation and organization of industrial production. The ministries of health of the USSR and RSFSR pay special attention to this work and create special conditions for the scientists. They organized the testing of laboratory specimens of the vaccine on limited groups of people. Preliminary tests of the killed vaccine showed its advantage over the live influenza vaccine used at present in the country. It has been shown that the percentage of the people protected by the killed vaccine was higher. If a new mutation of influenza virus appears, such a vaccine can easily be modified to fit the characteristics of the newcomer. Although production of the vaccine has been tested in the laboratory the methods of factory production of the vaccine still present a difficult problem.

Supplying the population with effective medicines and preparations is an important mission of the health services in their struggle against influenza. Special attention has been paid this year to the increase of production of interferon and gamma globulin (also used against swine flu virus) as well as to the production of an antiviral preparation--remantadene--which must be tested on a large scale. These preparations will be produced in larger amounts than before.

In the struggle against influenza which endangers great masses of people, we must make use of everything available that might be helpful: from the general measures aimed at improvement of the health of the Soviet people and improvement of the hygiene of labor and everyday life to new modern preventive and curing medicines. The important task now is to create a comprehensive plan for mass preventive measures in all the republics. This plan must provide for participation of many ministries and departments, public and trade union organizations along with the health services.

## VIETNAM

### PROGRESS IN CONTROLLING MALARIA REPORTED

Hanoi TAP CHI HOAT DONG KHOA HOC in Vietnamese No 10, Oct 76 pp 47, 48

[Text] At present in North Vietnam new economic areas are being formed, a number of provinces have been merged, and a number of stations specializing in malaria, insects, and parasites have been organized in the provinces, especially in the districts which have not been stabilized and

which create difficulties in following and controlling the causes of illness in areas where malaria has not been widely eliminated.

All of these changes have had some effect on fulfilling the planned norms for the first 6 months of the year in the localities. With the target being to "control epidemics and lower the percentage of parasites to the levels of before the war of destruction carried on by the American imperialists in North Vietnam," many localities have implemented technical measures rather well:

This year, spraying DDT in order to kill mosquitoes which spread malaria has been done in an orderly manner and on schedule. The majority of the provinces concluded the first spraying this year on 15 April. Spraying techniques were maintained.

The provinces have done a detailed and thorough job in dividing the regions in order to control epidemics of malaria. Because of this, cadres and means to go and investigate epidemics in regions having a complex epidemiological situation and in former epidemic regions have been actively arranged, cases of malaria have been determined early, and there are plans promptly to surround and limit the causes of contagious diseases by lowering the percentage of parasites.

The localities have given the proper amount of attention to treatment. A number of key regions have concentrated human and material power in order to handle the causes of disease at the source. Supplying materials to support each plan and each region has been done in a thorough manner and having things go amiss has been avoided.

In general, because of the above measures, malaria has been controlled somewhat and the health of the people of the various tribes has been maintained and this has successfully contributed to supporting production.

In general, the percentage of parasite-caused infections in North Vietnam has gone down as compared with the first 6 months of 1975.

In particular, in each region: The percentage has gone down little in former Zone 4, particularly in the former Nghe An zone; Quang Binh is still the place with the most difficulties; in the mountain areas, the place where there has been a great drop is Quang Ninh; in a number of provinces--Ha Giang, Bac Thai, Son La, Lao Cai, and Nghia Lo--the percentage of parasite-caused infections has increased.

The number of people who have pernicious malaria is approximately the same as during the first 6 months of 1975.

There were three more deaths from malaria than in 1975 (10 to 7). This is a problem which the cadres and personnel in the sector must think about.

Because, keeping people from dying from pernicious malaria is a process which is closely related to organizing things, diagnosing and discovering the illness, giving emergency aid, restoring health, and so on.

The number of places where there are parasites has slowly been reduced. One epidemic broke out during the first 5 months of this year, three less than during the first 6 months of 1975.

According to malaria epidemic patterns in our country, the first epidemic season has passed. The results of controlling epidemics during this phase will have a great influence on controlling epidemic high points during the second phase in September, October and November each year.

The target must be continued of lowering the percentage of parasites to 28 percent, controlling epidemics, advancing toward eliminating the causes of disease, and restoring the living environment in the villages for the people. To do this, above all, an effort must be made to reconsolidate and organize the lines, especially the primary level district and township lines--including hospitals and clinics. The workers, farmers, state forests, enterprises, agencies, and military units must be closely coordinated with the people in order to carry out epidemic control in the local zones with a proper spirit.

## ZAIRE

### MOSQUITOES STRIKE AGAIN

Kinshasa ELIMA in French 7 Oct 76 p 1

[Article by Assuka-Babaye]

[Excerpt] The sub-territory of Mbandaka is under the domination of innumerable mosquitoes, to the point where it is almost impossible to go out on one's terrace or in front of one's house for a neighborly chat without being disturbed by these cursed insects with their sinister buzz. The mosquitoes have laid down the law and their proliferation is setting the population's teeth on edge. We have only to think of the terrifying results of certain medical discoveries to realize the disastrous consequences that mosquitoes can have for the human organism. These insects feed primarily on blood. The Anopheles, which is the most dangerous, transmits the malaria pathogen. Because it is always valuable to have a thorough knowledge of an adversary or an enemy, we felt that our readers should be reminded of the significance of malaria. To this end, we called upon a scientist to define for us the disease transmitted to the organism by the Anopheles mosquito.

## Malaria

"This is a contagious disease produced by a protozoon that feeds on the red blood corpuscles, i.e. a hematozoon. It is transmitted by the Anopheles, a mosquito that inhabits hot swampy areas. The microorganism causes cyclical attacks of fever and progressive weakening of the organism." We know that scientific language is not understood by everyone. However, this definition of malaria in less scientific and more ordinary language confronts us with a very dangerous enemy known as the Anopheles mosquito.

As Pascal the illustrious scientist and philosopher said, "Man is a mere reed...a little nothing can kill him...he can be reduced to silence by a drop of water, a mere bagatelle." And so these mosquitoes, and particularly the Anopheles, can overwhelm and decimate an entire population if a merciless battle is not waged to stop their spread.

We are overcome with horror when an inspection and verification tour reveals the presence of swampland in the Bosomba collective, along Avenue Ipeko (Revolution). Gutters, trenches and drains which should carry rain water to the river are made useless. They are almost all plugged! Rain water which should flow through them and empty into the river is easily transformed into marshland on loamy soil, forming nests for thousands of mosquitoes. The mildest rain is enough to transform an entire area into a giant mudhole. The most striking example is the case of the Mbandaka III area which, with each torrential rain, is nearly drowned. This is perfectly true and not merely a rumor. The quantitative exacerbation of mosquitoes in the entire city of Mbandaka is everyone's concern. Insecticides sold in the stores are not available to everyone. Even those who, in desperation, vainly try to combat mosquitoes with these insecticides are appalled to discover that they produce only 1 or 2 nights of calm. The next night, they (the mosquitoes) strike again, with inexorable cruelty.

It would be overwhelming to consider all the damage caused by these insects in the human organism. In a moment of bitterness experienced when thinking about the very high infant mortality levels in Mbandaka, we would even be tempted to think that mosquitoes played some part in that.

### The Mbandaka Health Service: Lack of Concern or Lethargy

If the authorities of this service are asked what they think about this situation created by the presence of mosquitoes, they will conjure up various pretexts, which we qualify as a lethargic approach. The agents of this service are very active and vigilant when it is a matter of tracking down prostitutes and asking for their health cards. Far be it from us to underestimate this little service that the agents perform for admirers of the gentle sex by protecting them against possible venereal disease. Although this is an important service, we feel that the authorities of the

Health Service are giving the impression of taking "straw out of the neighbor's eyes before taking out the wood pressing on them."

Inspection of a topographical map of the entire city of Mbandaka clearly shows that it is traversed along almost its entire length by numerous drains which previously permitted the rain water to flow into the river and avoid stagnation. At present, nearly half of these conduits are plugged and made useless. The Mbandaka Health Service will of course always refuse evidence, preferring explanations that are dazzling in their obscurity. All of us have more or less the most elementary ideas about hygiene. To be sure, the battle against mosquitoes consists essentially of drying the swamps and disinfection. If the occupants of every private property could rigorously apply these health ideas, insecticides would be very helpful.

However, the insecticides sprayed in the rooms are ineffective for the simple reason that the root of the evil has never been removed. On some plots of ground, there is a strong smell of garbage that has accumulated for months and even overflowing garbage containers and heaps of putrefying waste matter. The occupants of these are the last ones to understand that these factors promote the spread of the mosquitoes which are harassing the population of Mbandaka. To some extent, this strikes a false note when the complaints and protests of the latter (occupants) are mixed with those of the others who, despite all their sanitary precautions and measures, do not succeed in eradicating this scourge in a definitive manner. It is not up to us to lay down a line of conduct for the authorities of the Mbandaka Health Service, but rather to show them the fait accompli. Instead of intensifying health inspections of plots of ground, even the conditions of rest rooms, garbage disposal, etc., their activities are essentially limited to checking on prostitutes! This is within the scope of their work, but does not represent all of it. When human lives are threatened, this should be a matter of importance to the pertinent service.

#### Gigantic Operation

Although the collective work of "Salongo" is within the scope of municipal sanitation and cleanliness, the authorities of the Mbandaka Health Service must make immense efforts to complete what cannot be carried out by the "Salongo" collective projects. All of the stopped-up drains constitute a fertile ground par excellence for the spread of mosquitoes. Hence, all the municipal drains must be cleaned out and the areas immediately surrounding them must be cleared. Not only the immediate environs but also and especially all the so-called strategic points in the city must be cleaned up.

Execution of such a large-scale operation requires a combination of appropriate tools and special machinery such as that used for terracing. We feel certain that half the problem would be solved if the Mbandaka Health

Service succeeded in restoring the function of all these drains. All rain-water drains must be utilized. Moreover, half of the work would be done by performing regular inspections, and charging fines for proprietors of lots that do not fulfill the desired health conditions.

We must also criticize the highway service. On numerous streets throughout Mbandaka, housewives are unconcerned about throwing garbage out under the pretext of "filling up the holes." All of the streets subject to this treatment are rapidly transformed into quagmires that give off repulsive odors. The picture of all this accumulated dirt shows the negligence of the highway service and its delinquent indifference. Finally, it is apparent that these two services mutually reject their responsibilities. Both are responsible for this situation. Regardless of what anyone says, these pretexts are effective for justifying the inactivity. The same goes for the springs that our citizens use to counteract the incessant cuts in water service effected by Regideso-Mbandaka. Water drawn from the numerous wells leaves something to be desired and it is suspect. Why not take samples of all these wells and check the quality?

At present, we speak of mosquitoes whose sting and buzzing irritate us and disturb our sleep. In the future, we will probably speak of epidemics. But even though there is still time to check this frightening possibility, we pretend unawareness of the dreadful menace to the population and fold our hands! However, the authorities should know this: It is better to prevent than to treat. There is only one course to take. The authorities must act. The lives of thousands of citizens depend on it.

#### VIRUS EPIDEMIC

Kinshasa ELIMA in French 8 Oct 76 pp 1, 8

[Text] All movement in and out of area is prohibited.

This Thursday the government commissioner of public health, citizen Ngwete Kinkela, gave the Zairian Press Agency [AZAP] information on the "very vicious" epidemic, not yet definitively identified, which has been raging in the Bumba area (Yandonge collective) in the equatorial region since 5 September.

The governmental commissioner of public health emphasized that energetic measures had been taken, consisting primarily in strict isolation of the contaminated area and the recommendation of precautions to be taken by inhabitants and care personnel.

Precautions are as follows:

- 1) Citizen Ngwete specified that all movement in and out of Bumba was strictly prohibited, regardless whether by boat, plane or roadway.

2) The body of any victim of the disease must immediately be placed in a shroud treated with an antiseptic solution and kept from any contact with the family.

3) Care personnel must wear a mask, gloves and special smocks.

4) Any contact with blood, respiratory secretions or urine of patients must be strictly avoided.

5) Any bed linens or clothing in contact with patients must be destroyed by burning.

Citizen Ngwete pointed out that this epidemic, of which the virus has not yet been identified, starts with high temperatures that are rapidly followed by convulsions and vomiting of blood. The course of the disease is very severe, rapidly developing into a state of shock and renal involvement.

In reply to a question as to efforts made to control the epidemic, the commissioner of public health said that the preliminary measures were aimed at identification of the disease.

To this end, blood specimens were taken both from patients and the deceased and sent to foreign laboratories for analysis.

Dr Ngwete said that the results reported by these laboratories ruled out typhoid fever and yellow fever. The causative virus is still unknown in Zaire.

In addition to measures aimed at identification of the disease, the Department of Public Health has endeavored to limit its spread.

Finally, the commissioner indicated that, to date, there is no vaccine against this disease and that antibiotics have no effect. The only expedient measures are those described above and the isolation of patients.

A team from the Health Department is permanently stationed in the afflicted areas and is collaborating with medical personnel in Bumba, Ebonda and Yalingimba.

This same epidemic has been reported in the Sudan. Measures have already been taken but so far there are no data to indicate that the epidemic originated there.

In sum, the government health commissioner indicated that the disease is not a mysterious one but rather one that has never occurred in Zaire. The laboratories suspect Lhassa fever, which was detected for the first time in Nigeria.



Tananarive MADAGASCAR MATIN in French 12 Oct 76 p 6

[Text] Antwerp--The virus responsible for the mysterious disease which has caused dozens of deaths in Sudan and Haut Zaire may have been isolated by scientists at the Institute of Virology and Tropical Medicine in Antwerp, the press agency Belga has been informed.

However, this virus, if it has been isolated, has not been identified: it is unknown and no drug or vaccine can yet act against it.

Yaounde CAMEROON TRIBUNE in French 17-18 Oct 76 p 16

[Text] Ngwete Kinkela, Zairian minister of public health, revealed Friday that since 8 September, the date on which the first case of infection was detected, 259 persons have died in Zaire as a result of the mysterious viral epidemic which is currently raging in four African countries.

In an interview with the Zairian Press Agency (AZAP), Ngwete specified that all the cases had been recorded within a radius of 20 km around Yambuku. He pointed out that the two cases recorded at Bumba were of persons who had come from the infected area.

He affirmed that the situation had clearly improved and that only one new case had been identified since 9 October. He added, however, that the security measures taken by the authorities will remain in effect until further notice.

Zaire has just issued a worldwide appeal for serum to protect the threatened people, especially physicians, but Ngwete denied rumors reporting that one of the latter had died.

Further, the Zaire minister was pleased with the aid which Belgium and France have given to Zaire in the struggle against the epidemic.

In turn, the Central African Republic [CAR] minister of public health claimed Friday, on the CAR Revolution Radio at Bangui, that the mysterious virus which has been responsible for the death of several hundred persons in Sudan and Zaire had not reached the country's borders.

In this statement he also denied the rumors circulating in the border areas between the CAR, southern Sudan, and northern Zaire, according to which this epidemic had also spread into these areas. The Ministry of Public Health has specifically indicated that the CAR health officials have forbidden the movement of persons between Zaire and the CAR since the end of September, whereas physicians who are specialists in the field have been sent into this area and health controls have been set up.

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The communique added that these preventive measures will last as long as the danger of epidemic persists. Finally, the communique stated definitively that this virus "has not caused the death of any person in the CAR as of this date."

A reminder is issued that WHO has decided to send a multidisciplinary and international team to central Africa in an attempt to clarify the mysteries of this viral epidemic which, according to specialists, is related to the "Marburg" disease.

Tunis LA PRESSE DE TUNISIE in French 23 Oct 76 p 8

[Text] Nancy--The mysterious disease which has caused the death of 230 persons in Zaire may be due to a swine-parasitic nematode, *Stephanurus dentatus*. This information has just been released by a Belgian veterinarian, Dr J. E. Wery, who is living in retirement in Nancy (Meurthe et Moselle, France).

Dr Wery, a former veterinary advisor in the Congo, bases his reasoning on the fact that he himself was a victim of this disease, stephanurosis, in 1940 while he was carrying out a study on an epizooty which was decimating swine populations in the Belgian Congo.

Dr Wery also stresses that the geographical distribution of the localities hit by the "Marburg disease," which runs from Lifala to Kinshasa, corresponds to the area infested by *Stephanurus dentatus*.

## II. ANIMAL DISEASES

### BRAZIL

#### UNKNOWN DISEASE CAUSES DEATH OF CATTLE IN SOROCABA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 21 Nov 76 p 55

[Text] Itu--Thousands of bovines have died in the past few months in the area of Sorocaba as a result of dehydration whose cause has still not been determined by veterinary and zootechnical doctors. It is believed that the illness is being produced by an excess of rain, which could be producing an imbalance in the mineral characteristics of the pastures.

In the Paiol Ranch alone, located between the cities of Tatui and Guarei, the affliction killed 685 cows and calves in less than 7 months, which constitutes about a fifth of the herd of 4,000 head in existence at the place, or a loss estimated at more than 1 million cruzeiros. More than 50,000 cruzeiros were spent on medicines alone, without managing to reduce the high rate of mortality.

The problem also affects other areas with equal results: 30 percent of the bovine herd was killed in the Paranapanema Valley, and countless deaths of cattle were verified 3 months ago as a result of the same illness in the area of Pilar do Sur and Salto de Pirapora.

#### The Deaths

"In a herd of almost 4,000 head dispersed over an equal number of hectares of pastures of the best quality grass, the death of 1 or 2 or even 3 calves per month is considered normal. But when that figure increases by the tens, the fact constitutes an indication of the occurrence of a serious epidemic. That is what happened here: from a death rate of 2 or 3 head per month, we went on to the tens and even the hundreds." The information was furnished by the manager of the Paiol Ranch, John Buchholzer, a Dane educated in England, who was a book publisher in South Africa and speaks 11 languages.

According to him, the death of bovines on the Paiol Ranch began in the month of May, became worse from then on and reached its highest rate in the months of September and October. All this was closely confirmed by Fernando Prestes, owner of the ranch, who produced the records of the losses caused by the disease. "In May, we lost 18 head; in the month of June, 51 died; in July, 28; and in August, another 97. In September, that number increased to 138, dropped to 67 in the following month and so on down. It seems that the crisis was finally surmounted," he said with a sense of relief.

Listlessness, diarrhea, depression and death--these are the symptoms of the disease that killed more than 600 animals on the Paiol Ranch. The diagnosis of veterinarians Teles Falvao and Drausio Gouveia, meanwhile, makes reference to the imbalance of minerals in the pastures due to excessive rain.

In that connection, 244 weakened calves were sold at an average 200-250 cruzeiros each for the production of mortadella. And hundreds of other animals had to be sold to improve the sustaining capability of the pastures.

#### NEW PLAN TO ERADICATE BOVINE RABIES INSTITUTED IN SOUTH

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 23 Nov 76 p 27

[Text] Bovine rabies, which this year has already killed 931 animals, should be eradicated in Rio Grande do Sul by 1982, according to a new plan to combat the vampire bat presented by the Agriculture Secretariat in Porto Alegre yesterday. The eradication of the disease, which kills approximately 2,500 animals annually, should be achieved by the implementation of a project that will go into effect in January, under the coordination of the team to combat infectious diseases of the Animal Production Supervisory Office.

The vampire bat will be controlled by the use of chemical methods tested by the PAHO, and domestic herbivores will be vaccinated besides. Immunization will be intensive because in this year alone, technicians of the Agriculture Secretariat identified 261 sources of rabies in 39 municipalities, which caused the deaths of 931 animals.

The principal transmitter of bovine rabies is the vampire bat known by the scientific name of *desmodus rotundus*, which lives in caves, abandoned mines, tunnels, hollow tree trunks, and other dark and humid places from where it goes forth at night to feed on the blood of animals. The fight will be conducted according to methods designed by the Pan American Zoonosis Center of the PAHO.

The method consists in trapping some of the animals at night with very fine mesh nets that the bats cannot detect. Those animals are then dabbled

with an anticoagulant chemical substance and released, so that they can return to the caves and contaminate the whole colony. Thus, each animal that is trapped and released can eliminate up to 30 other bats.

#### EAST GERMANY

#### PREVENTION AND ERADICATION OF HOG CHOLERA IN THE GDR

East Berlin INTERNATIONALE ZEITSCHRIFT DER LANDWIRTSCHAFT in German No 5, 1976 pp 586-590

[Lecture by Prof Dr habilitiert D. Urbanek, Dessau Vaccine Institute of the Academy of Agricultural Sciences of the GDR, presented at the Second International Scientific Conference on Problems and Prophylaxis in the Industrial Production of Hogs, at the Institute for Combating Diseases of Swine, Vratsa, People's Republic of Bulgaria]

[Text] In connection with the intensification of socialist agriculture, the eradication of hog cholera (HC) has been achieved in the GDR during the last 10 years by systematic measures of prevention and control. In the period from 1966 to 1970, 360 outbreaks were reported. From 1970 to 1974 only 55 cases of hog cholera occurred; these involved only sporadic outbreaks, which were quickly put down, and in 1975 no HC outbreaks were observed (Schwedler, 1975). Most of the HC cases were territorially related to pork imported from countries where HC occurs, but the HC virus itself could not be detected in the imported pork.

The eradication of HC in the GDR was dependent on several factors:

1. The further development of the socioeconomic basis of agriculture and the related prerequisites for sure prevention and control of animal diseases.
2. The development of a reliable laboratory diagnostic procedure that can be used in all testing institutions.
3. The use of the "Riems" HC live virus vaccine (HC-LVV), which is prepared from the rabbitized HC virus strain C.

The remainder of this paper is chiefly concerned with these three factors.

#### Development of the Social Prerequisites for Prevention and Control of Hog Cholera

In recent years the degree of concentration of herds of swine has increased considerably, and the organization of the swine industry, including the

veterinary hygienic measures connected with it, has been further improved. The development of the productive forces and production conditions of socialist agriculture was accompanied by a far-reaching campaign of education and persuasion for measures of prevention and control of epizootics and infectious diseases and led to a conscious cooperation of all social forces involved in animal husbandry. On this basis epizootic alarm plans, animal hygiene regulations, and for the industrialized animal industry programs of hygiene and prophylaxis were introduced, thus creating better preconditions for the control of epizootics. The Epizootic Decree of 11 August 1971 represents a new formulation of legal veterinary provisions corresponding to the social progress. Specific measures for the prevention and control of HC are established in a corresponding regulation of 16 January 1974.

#### Diagnosis of Hog Cholera

Reliable diagnosis is an essential prerequisite for prophylaxis and control. In hog cholera the diagnosis can be made in most cases only by taking account of several test results. These include clinical, epizootiological, and pathological investigations, and in doubtful cases also experiments with animals or laboratory diagnostic procedures to detect HC antigens or antibodies, which have come to be especially highly regarded in recent years. It can be seen from the literature, however, that only a few laboratory methods possess adequate diagnostic reliability and are to be considered for practical application. The immunofluorescent technique (IFT) occupies a special position. By this method HC virus antigen can be detected with a high degree of certainty in a relatively short time and without great expense, directly in the organs of affected animals or after cultivation in cell cultures. This method is already very widely used. In the GDR a contrast IFT was introduced in 1970 as a general laboratory diagnostic method in all the diagnostic laboratories of the bezirk institutes for veterinary work in the GDR (Engler et al., 1970 and 1972; Heinicke, 1972; Urbanek, 1973). In that procedure we use the direct immunofluorescence of frozen sections of the spleen, tonsils, lymph nodes, and kidneys. It has the effect that the specific yellowish green fluorescence on a violet blue background becomes better visible and non-specific reactions are almost completely eliminated. The marked HC serum required for this method, as well as the stain, is manufactured in the GDR as a commercial preparation. According to our experience the advantage of contrast IFT consists principally in the fact that the diagnosis can be made within a few hours, requires only a small outlay, and involves minimal costs. The diagnostic reliability in the acute pattern of hog cholera is 95 to 100 percent, although in atypical and chronic cases only 30 to 60 percent of the individual cases show a positive reaction (Tables 1 and 2 [not reproduced here]).

For a sure diagnosis, therefore, it is necessary to examine at least three clinically sick animals. Moreover, only fresh organic material can be used for the test, as the HC virus antigen can be detected in dead animals

only up to the second day post mortem and autolysis and putrefaction impair the interpretation of the test.

Other diagnostic laboratory methods such as:

- 1) Detection of HC virus antigen in cell cultures by IFT,
- 2) Cell culture procedures for indirect detection of HC virus,
- 3) The agar gel precipitation test, and
- 4) The neutralization test to detect HC antibodies

were only tested experimentally and not used for routine examinations in practice.

The virological diagnosis of HC is hardly affected by vaccination with HC-LVV from the vaccine strain C, because the vaccine virus can be observed only during the viremia phase in the tonsils, spleen and lymph nodes by fluorescence histology, and is no longer detectable by the 16th day after vaccination. For definition of low-virulence HC virus strains the following criteria are available at present (cf. Urbaneck, 1971):

- 1) Histopathology: only pathogenic strains cause
  - a. A marked encephalitis and
  - b. Degenerative changes in the lymph nodes;
- 2) Immunohistology, for attenuated and low-virulence strains are to be found chiefly or solely in the tonsils, where they occur localized in the epithelium of the crypts;
- 3) The cytology of the blood and bone marrow, which show only slight alterations or none in the case of attenuated strains; and
- 4) Rabbit tests, in which rabbitized strains lead to the typical temperature reaction.

In addition, serum protein changes, cell culture studies, and temperature intensity have been resorted to. Immunofluorescence and experiments with animals are of chief practical importance.

#### Prophylaxis and Control of Hog Cholera

Effective prophylaxis and control are possible only through complex anti-epizootic and immunobiological measures. Under the legal provisions of the Order for the Prevention and Control of Hog Cholera of 16 January 1974, anti-epizootic measures are in the foreground. They are still based even today on the "classical" principles that have been fruitfully applied for decades. The chief of these are:

1) Prophylactic protection of the herds against epizootics, such as quarantine of animals newly brought in, inspection and restriction of movement of animals, and the cooking of kitchen scraps used as feed;

2) Veterinary measures in case of a hog cholera outbreak, such as:

a. Guarantee of the diagnosis by obligatory reporting; epizootiological and clinical surveys, follow-up examinations, and laboratory diagnostic tests;

b. Control of the epizootic focus by quarantine of the herd, restrictions on transportation and trade, safe removal of the dead animals, culling the sick animals, controlled epizootiological slaughter, control of the slaughtering products, vaccination in the contaminated herd, and replacement of the herd. Where necessary, a quarantine area is formed, in which trade in animals is controlled, animals suspected of infection are kept under observation, and domestic slaughtering is prohibited;

c. Disinfection measures for stalls, implements, dung, urine, and liquid manure.

The epizootiological measures are aimed at preventing introduction of the HC virus, immediate eradication of the focus of infection, and maintenance of the freedom from infection achieved.

Because of the constant danger of the introduction of the HC virus, especially through meat and meat products, immunoprophylactic measures are needed in addition to the anti-epizootic measures. Since 1972 the "Riems" HC-LVV, which is prepared from the HC virus strain C, has been used exclusively for vaccination against hog cholera (Urbanek, 1971 and 1973; Beer et al., 1972). The crystal violet HC vaccine has not been used since that time. Both immunobiological and economic considerations told in favor of this solution. The crystal violet vaccine used against HC in the GDR since 1955 undoubtedly proved its value in the upbuilding of an efficient swine industry. As an inactivated vaccine, however, it is no longer up to the world standard in regard to the level and duration of immunity or in regard to costs of production and application. The use of the "Riems" SP-LVV represented an essential factor in the new tactical decision for eradication (Heinicke, 1972).

When we introduced the HC-LVV prepared from vaccine C, we relied on experience from the socialist countries, especially from the Socialist Republic of Romania, and set up extensive researches of our own on the epizootiological and clinical harmlessness and effectiveness. Our own experience fully confirmed the research findings that had been obtained in the socialist countries (Urbanek, 1973). It should be particularly emphasized that both in experimental studies and in practical application, a reliable safety, good tolerance, high effectiveness, and--most important--an adequate genetic stability of the properties of the vaccine virus strain were found.



The concept of vaccination with the HC-LVV from the vaccine strain C is based on the established principles that have proved their value internationally as well as in the use of the crystal violet HC vaccine here.

According to these principles, vaccinations are carried out first of all at all hog farms that use scraps for feed and at all hog fattening concerns that buy up animals from other herds. Other fattening concerns are vaccinated only if a high environmental risk exists. For prophylactic vaccination of hogs being fattened for the market, a combination vaccination with live erysipelas vaccine has proved practical. In contrast to hogs being fattened, breeding stock in general are not vaccinated. Exceptions are made only when the breeding farms are not satisfactorily separated from fattening places and animals are only delivered for fattening and not used for breeding, or when there is a special danger of HC infection. This decision to exclude breeding stock from vaccination is based on the fact that:

- 1) According to the principles of combating epizootics an unambiguously defined immunological status must be present, and this would make necessary an annual revaccination of all brood sows and a two-time vaccination of all newborn pigs at the age of 28 days and 2 to 3 months, and
- 2) Such a high economic outlay is not justified on the basis of the general epizootiological situation.

In addition to its prophylactic use, the "Riems" HC-LVV also shows itself to be highly effective when used in herds already infected with hog cholera. In a number of HC infected herds we were able to demonstrate that by means of this "metaphylactic use" of the HC-LVV in conjunction with subsequent anti-epizootic measures it is possible to eradicate hog cholera on big hog farms, i.e. including breeding farms, without having to destroy the entire herd (Urbanek et al., 1973).

The decision on the use of the HC-LVV to combat hog cholera is materially influenced by the territorial, production, and epizootiological situation and by the diffusion of the disease in the herd.

The following factors are to be specially noted:

- 1) Lapse of time between suspicion of HC and observation of the epizootic, i.e. spread of the HC virus in the herd;
- 2) Number and pattern of cases;
- 3) Distribution of the cases in the herd;
- 4) Normal workday connection between stalls;
- 5) General hygienic conditions for protection of individual stalls; and

6) Territorial location.

According to our experience (Urbanek, et al., 1973), when HC-LVV C is used in infected herds, the following conditions must be maintained unconditionally:

- 1) Within 24 hours after observation of hog cholera, the entire herd including pregnant sows and newborn pigs must be vaccinated.
- 2) All clinically sick, feverish animals and those that appear under the weather are to be excluded from vaccination and marked for epidemiological slaughter together with all swine that become sick after vaccination. It is also necessary to select out all swine in the bays in which HC cases have occurred and all those in the stall units in which HC is already widespread.
- 3) All pigs farrowed during the HC quarantine must be vaccinated on the first or second day of life, on the 20th day, and in the second or third month.
- 4) Before the vaccination and 3 to 6 weeks after it the stalls in which HC cases occurred are to be subjected to a general disinfection. In addition, strict general disinfection measures are to be carried out daily throughout the herd.

As a check on the effect of the vaccination, the following diagnostic control tests are carried out on all hogs of the infected herd that have been killed as an emergency measure or otherwise or have died:

- 1) Up to 3 weeks after vaccination, pathoanatomical studies;
- 2) From 3 to 6 weeks after vaccination, pathoanatomical and immunohistological studies;
- 3) From 6 to 10 weeks after vaccination pathoanatomical studies; in addition, two to five HC-sensitive swine are placed as contact controls in the stalls in which hog cholera cases have occurred.

The quarantine can be lifted if within 10 weeks after the vaccination, with the aforementioned control tests, no HC and no HC virus antigen is detected and the HC-susceptible control swine do not grow sick during a 3-week observation period and in the subsequent pathoanatomical and fluorescence histological study no indications of HC infection are found. If HC or HC virus antigen is observed, the quarantine of the herd is to be maintained and the diagnostic studies are to be continued. The quarantine may be lifted not earlier than 10 weeks after the last HC case.

After a metaphylactic vaccination in breeding herds, for 12 months after the occurrence of hog cholera animals can be sold only for feeding and can

be used for breeding only within the same herd. Only after the lapse of that period of time is it permissible to sell breeding stock, and then only if at least 5 to 10 percent of the suckling pigs lost and at least 10 to 15 percent of all other losses have been examined diagnostically for HC and no indications of HC infection have been found.

These rules for the use of HC-LVV in herds already infected are based first on the favorable biological properties of HC virus strain C (cf. Urbaneck, 1971 and 1973), and secondly on the fact that HC infection has a tendency to persist. Thus, it is stated in all relevant studies of the effectiveness of SP-LVV C that immunity to a parenteral test infection [word or words omitted by error here in the original] by the third day after vaccination and fully developed on the fifth day. In the case of a contact infection the protective effect is 90 to 95 percent even on the second day after vaccination and 95 to 100 percent on the third. For practical protection against infection, therefore, a lapse of a day or two is needed to prevent a contact infection with field virus. This early protective action, which is evidently due to an interference effect, forms the biological basis for the fact that with prompt vaccination the chain of infection is broken and further spread of hog cholera in big herds can thus be prevented. The hogs already infected, however, and some of the hogs that have become infected with HC field virus within a period of up to a maximum of 48 hours, cannot be protected by vaccination from contracting hog cholera. In accordance with the incubation period, it can be expected that cases of hog cholera may occur up to about 3 weeks after vaccination.

The selection of all sick, feverish, and ailing hogs before vaccination and consistent culling of such animals after vaccination, in conjunction with careful disinfection and quarantine between barns and/or barn units within a herd leads to reduction of the number of hogs excreting the virus, to dilution of the causal agent in the external environment, and to the elimination of potential virus carriers. We have devoted special attention to studies of persistence of the virus in vaccinated herds, and were able to make the following observations:

- 1) From 6 to 9 weeks after the vaccination, when clinically healthy hogs from the previously infected barn were slaughtered, no HC virus could be found by IFT and animal experiments with hogs.
- 2) In HC-susceptible hogs that were placed in the infected stall 6 weeks after vaccination, in spite of an intensive contact of 3 weeks no cases of hog cholera occurred, and the pathoanatomical and immunohistological tests were negative.
- 3) After the quarantine was lifted, newborn pigs, which were not vaccinated against HC and so were fully susceptible to the HC virus, exhibited no HC, and no signs of chronic and latent forms of the disease were to be found.

These observations show that with consistent application of the rules stated above it is possible to decontaminate even HC-infected breeding herds, with no occurrence of latent HC infections in sows and pigs (Table 3 [not reproduced here]). The breeding hygiene situation is not impaired in any way. Where these rules were strictly observed, other investigators as well (cf. Urbaneck, 1973) were unable to observe any excretion and persistence of the field virus or any latent infections.

In summary it may be stated that in our experience in the prevention and control of hog cholera, it is possible by the combined application of epizootic and immunobiological measures--and the use of an adequately attenuated and highly effective live virus vaccine--to achieve freedom from epizootic outbreaks of the disease and a sure protection against hog cholera.

## INDONESIA

### BALI CATTLE DISEASES DISCUSSED

Jakarta KOMPAS in Indonesian 27 Oct 76 p 12

[Excerpt] Denpasar, KOMPAS--Of the 10,914 cattle in Bali attacked by the jemberana disease, 848 died up to September. This disease was first encountered in Jemberana Regency and then spread throughout Bali.

In 1974 there were 4,584 cases of the jemberana disease in Bali with 336 deaths. This rose in 1975 to 6,610 cases with 345 deaths (7.5 percent). Up to September there were 1,720 cases in all of Bali with a total of 167 deaths.

Livestock inspector for the Bali area, Dr Soegondo, in his interview with KOMPAS admitted that up to now he had not found a preventive or precise medication for this type of animal disease. The only thing which can be done now is to control it.

In addition to the deaths from the jemberana disease, about 50 cattle die each year in Bali from the njorok (S.E.) disease. The S.E. (Septichaemi epizootic) disease was very sporadic in fiscal 1976. However it could be suppressed due to safety measures taken through inoculation. A total of 252,496 cattle, pigs and water buffalo were inoculated in fiscal 1976.

### Hoof-and-Mouth Disease Ends

Soegondo said that in 1976 Bali was free of the hoof-and-mouth disease after 3 years of intensive prevention through mass inoculation. The last inoculation was done of the 304,287th animal in the third and final phase of the inoculations by Governor Sukarmen on 24 October.

Very few deaths, only about 0.1 percent, resulted from the hoof-and-mouth disease. According to Dr Soegondo, deaths from various cattle diseases in Bali are greatly influenced by the awareness of the cattle raiser himself.

For example, delay in reporting a sick animal, slaughtering a sick animal and selling the meat in other areas as well as selling sick animals apparently plays a big role in spreading animal diseases in Bali.

#### BRUCELLOSIS IN SUMBA REPORTED

Jakarta KOMPAS in Indonesian 4 Nov 76 p 9

[Text] Many of the Brahman cows sent to the Second-Level East Sumba regions as assistance from the president are suffering from brucellosis, resulting in a number of miscarriages in the cows.

According to information learned by a KOMPAS reporter, of the 47 head of Brahman which were examined 14 are afflicted with brucellosis, which is generally not found there.

The health of the imported cattle is also declining. One year ago, when they first arrived from Australia they were fat, but are now thin, because of the difficulties in adjusting to new surroundings. The feeding conditions, too, are substandard. The effect is that many of them are infested with worms, suffering from brucellosis, and attacked by flies which suck in their blood. In the meantime, the needed drug is not obtainable.

In the entire East Sumba there are now 2,202 head of Brahman, a number of which came as donation from the president, the rest being the property of PT Bina Mulia Ternak, which owns a ranch there.

#### CATTLE DISEASE IN JAVA

Jakarta SUARA KARYA in Indonesian 9 Nov 76 p 5

[Text] Bandung (ANTARA)--In several regions in West Java, as many as 447 water buffaloes and 1 pig recently died suddenly from an attack of a disease called Apthae Epizootica (AE), the head of West Java Livestock Husbandry Service, Yuntiwa, told an ANTARA reporter.

Reports of cattle dying by the hundreds of AE have come from the Livestock Husbandry Services in the regencies of Indramayu, Sumedang, Sukabumi and Tangerang, he said. In Tangerang alone, Yuntiwa said, 2,831 head of water buffaloes have succumbed to the AE epidemic.

He said that in an effort to curb the epidemic the Livestock Directorate General, in conjunction with the Directorate of Livestock Health, has

provided help in the form of 8,000 doses of AE vaccines that have saved the lives of 10,133 head of cows, 23,524 head of water buffaloes, 672 head of pigs as well as 4,525 head of sheep.

## REUNION

### BRUCELLOSIS RECURS IN PETITE ILE

Saint Denis TEMOIGNAGES in French 9-10 Oct 76 p 5

[Text] Brucellosis definitely exists. No one denies it. Not even Mr Bord, director of FORMA, who recognized the disease.

Unfortunately, the disease is continuing its ravages. And as always, it is the cattle raisers who bear the expense of the project, which does not prevent the Credit Agricole [Agricultural Credit Union] from taking in the money.

Here is yet another example:

A cattle raiser from Petite Ile bought 10 South African heifers at Sica Provire at a price very well known to the Credit Agricole.

The cattle raiser has been feeding these 10 heifers for 16 months and the "cattle raising specialists" at the Credit Agricole know or should know what this costs.

During the 16 months since he bought the heifers, which were allegedly pregnant at the time of delivery, the cattle raiser has had the following: four abortions; one death; one birth of a maverick, taking into consideration the exceptionally small size of the calf.

The upshot of this is a ruined cattle raiser and a flourishing Credit Agricole.

## VIETNAM

### HOG CHOLERA OUTBREAK CONTROLLED IN HO CHI MINH CITY

Ho Chi Minh City SAIGON GIAI PHONG in Vietnamese 22 Sep 76 pp 1, 4

[Article by D.Th.]

[Text] Hog cholera, a contagious disease capable of killing thousands of domestic animals within a short time, has been stamped out since the beginning of September 1976 by the people of the city.

At the beginning of May 1976, hog cholera appeared in Yen Do Ward of the 3d Precinct, in the 8th Precinct, and in Go Vap District. Responding to an appeal of the Municipal People's Committee to control and eradicate the disease, people in the locations above established resistance teams in order to halt the disease promptly.

At the initial appearance of the disease in the 8th Precinct, the people immediately isolated disease locations in order for the veterinarians to inspect, save lives swiftly and to inoculate diseased hogs. In areas threatened by the disease, the people inoculated the hogs and controlled the disease. From 20 May to 30 August, 6,400 hogs in the 8th Precinct were examined, nearly 5,000 were inoculated and 86 or 2 percent of the diseased hogs have been cured.

In Go Vap District, the people actively participated in disease resistance efforts along with the veterinarians in order to save 317 diseased hogs and to examine and inoculate 1,400 others.

### III. PLANT DISEASES AND INSECT PESTS

#### INDONESIA

##### PLANT PEST IN SUMATRA

Jakarta MERDEKA in Indonesian 8 Nov 76 p 7

[Excerpts] Medan (ANTARA)--Through its protection unit, the North Sumatra People's Agricultural Service has swiftly brought under control the plant pest now attacking the Asahan regency.

J.W. Silalahi, head of the Plant Protection Department of North Sumatra People's Agricultural Service, answering an ANTARA reporter's question on 3 November, explained that the blighted area placed under watch by the protection brigade encompasses 1,800 hectares of rice fields.

Means to fight the pest includes additional pesticide sent to replenish stock which was insufficient to meet the needs. Three tons of pesticide have recently been shipped there to satisfy demands.

The government, according to Silalahi, has tried to eradicate the pest in the regions by using several means, but there still are farmers who have not paid full attention to the government guidelines in the use of pest-resistant rice seeds.

The rice planted in 1976 in Asahan which was attacked by the pest, according to Silalahi, was from local seeds. In the preceding year, the farmers still used the pest-resistant seeds, but in 1976 they again used the local seeds.

Other regencies in North Sumatra have also been infested by the same plant pest, but it has not been harmful because most of the farmers there use the pest-resistant type of seeds, Silalahi added.



TURKEY

WHEAT RUST CAUSES SIGNIFICANT CROP LOSS EACH YEAR

Istanbul AKSAM in Turkish 28 Oct 76 pp 5, 7

[Text] Izmir--It is estimated that wheat rust causes a 15 to 20 percent cereal grain crop loss each year. Sener Sumer, a specialist for the Izmir region Agricultural Control and Quarantine Directorate, said, "If no continuous battle is waged, the loss could climb as high as 70 to 90 percent."

Sumer said that the disease, which is called by names such as "kor" and "karamuk" by the people, manifests itself on spikes. He noted that the disease cannot be detected when the wheat has no spikes and stated that infected crops are shorter than healthy crops.

"If infected, spikes look as if they are set perpendicular in the ground when they are ripe, because they are lighter in weight than healthy ones. Grains can easily be crushed by hand, and when crushed, they immediately give off a fishy smell."

Sumer said that chemical control of the disease consists of treating dry seed before sowing. Treatments should never be applied with a lower or higher amount of the recommended dosages. He added that even if treated seed is washed, it cannot be eaten by humans or animals.

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